AFFECTIVE DISORDER IN THE GENERAL POPULATION AND IN HOSPITAL CARE : AN EPIDEMIOLOGICAL ENQUIRY

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Thesis presented for the Degree of Doctor of Philosophy
of the University of Edinburgh in the Faculty of Medicine

1986

The research described herein was part of a major project undertaken by the MRC Unit for Epidemiological Studies in Psychiatry. The hospital-based component of the study was conducted entirely by myself, and the general population survey had my substantial involvement in case-identification during the prevalence survey; I also supervised all the follow-up of cases identified at that stage. The thesis has been composed by myself.

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ABSTRACT

This study aimed to provide a detailed description of affective disorder amongst women in the general population and out-patient and in-patient treatment settings. Epidemiological estimates of both prevalence and incidence of affective disorders were sought and discrimination of cases found in the community and hospital settings was attempted on the basis of a variety of socio-demographic factors and other risk factors such as life events and long-term difficulties. Diagnostic classification and distinction within the two groups were studied and variation in rates consequent upon the choice of particular diagnostic systems was also investigated.

Design and Method

The study made use of data collected during a prospective follow-up investigation of a random sample of women from the general population. Population morbidity rates and risks were assessed during a prevalence survey of 576 women from a geographically delimited area of Edinburgh. Stratified samples of this group were followed up over a period of one year and inception rates were based on these groups. At the same time as the prevalence survey in the community, all the women between the ages of 18 and 65 and with an address in the study area who were in psychiatric care on a census day as determined by the case-register were enumerated as the treated prevalence sample. Women who were referred as 'new cases ' to the register over the next six months formed the treatment inception group. A number of comparisons between the hospital and community

groups was carried out. Samples from the prevalence and inception groups were chosen and diagnostic variations amongst the groups thus selected were assessed using structured psychiatric interviews. Community samples formed a comparison group. The hospital inception group was also screened for those fulfilling operational criteria for affective disorder and 47 women thus selected were the subjects of detailed comparison with cases found in the community survey.

In addition to diagnostic classes and demographic variables the two groups were compared on putative risk factors such as social support, early parental loss, availability of intimate relationships and life events and long term difficulties as measured by structured interviews.

Principal results

Morbidity rates showed that the hospital treated psychiatric disorders had a point prevalence rate that was less than 3 per cent of the general population morbidity and affective disorders formed the bulk of such disorders. Annual inception of disorders in the general population was over 8 times as frequent as new inception into hospital treatment. Married women were over-represented among the community cases who were also more likely to be younger and from working class when compared to hospital referred cases. Disorders found in hospital settings were more severe and of shorter duration than community cases and the concordance among various diagnostic systems in assigning individuals to specific diagnostic categories was generally unsatisfactory. Detailed examination of hospital

referred cases of affective disorder and comparison with community cases showed that the two groups were generally similar in having had significant loss experiences, poor social support and lack of confiding relationships. Both groups were significantly different from community non-cases on these variables. Patients also showed an increase in life events and major difficulties prior to illness onset and treatment inception and they also had an excess of long-term difficulties when compared to community cases.

ACKNOWLEDGEMENTS

I owe a great debt of gratitude to my colleagues in the 'depression team' at the MRC Unit for Epidemiological Studies in Psychiatry and this debt is only partially acknowledged by mentioning their names here. Drs Norman Kreitman, Paul Surtees, Patrick Miller and Jack Ingham may not be aware of the various ways in which their ideas, suggestions and discussions had helped me in completing this thesis but without their active and helpful involvement and support the task would have been more difficult to achieve.

My special thanks are due to Paul Surtees whose comments and criticisms were always invaluable in helping me focus my enquiries on what was not so obvious but highly relevant and to Patrick Miller for the patience and care with which he helped me collect, rate and come to terms with life event data.

I am also very pleased to record my thanks to the following: Mrs Myrna Kaplan who patiently and diligently rated the life events and difficulties; Mrs Sarah Raikes and Mrs Maura Walker who carried out many of the life event interviews in hospital patients; Mrs Eileen Bowler of Data Collection Office, Medical Records Department, Royal Edinburgh Hospital and Mr Ian Sands and Mrs Ruth Holliday of the Lothian Health Board for their help in providing data from the Edinburgh Psychiatric Case Register; the consultants and the medical and nursing staff of the Royal Edinburgh Hospital who provided access and help in interviewing patients and the team of interviewers who diligently collected data in the community survey.

I am particularly grateful to Mrs Joyce Greig who quickly and accurately typed (and retyped) this thesis from endless and often confusing draft manuscripts. I also thank Mrs Caroline Urquhart and Mrs May Norquay for providing additional secretarial assistance. Mrs Margaret Nicholson of the Departmental Library was patient and helpful with my demands for innumerable references and reprints. Mrs Dilys Rennie provided me with considerable assistance in computing and she very kindly made available her skills in this area.

Finally, my grateful thanks are due to Dr Norman Kreitman who provided considerable encouragement and invaluable advice at every stage of this study and who also patiently read through drafts of this thesis. He also made the whole project both intellectually exciting and personally rewarding.

Needless to say, the individuals mentioned here are responsible only for any of the virtues and none of the vices of what follows.

INTRODUCTION

CHAPTER 1

INTRODUCTION

This thesis is concerned with certain aspects of the epidemiology of affective disorders. Epidemiological studies of psychiatric disorders including affective disorders have a long history. They have all made substantial contributions towards our understanding of the extent and the determinants of psychopathology. The specificity of their findings and the generalisability of morbid patterns to derive a total picture have however been constrained by certain limitations of method and theory. It is the advances made in the last decade or two in the methodology of psychiatric epidemiological research and in the theoretical understanding of the aetiology of affective disorders that suggest further research in this area. We are, it is claimed (Weissman and Klerman 1978), on the verge of making significant contributions to the resolution of 'scientific, clinical and public policy issues'.

The current period, since the sixties, has seen the "renaissance of psychiatric epidemiology" (Klerman 1978). This has been due to a number of reasons. Earlier controversies about the relevance of a disease model to the study of psychiatric conditions have abated to some extent and this has seen the emergence of a view that most mental illnesses have multifactorial aetiology and an exclusive biological or sociogenic causal model would be inconsistent with available evidence. A complex model allowing for an interaction between genetic predisposing factors and environmental influences is thought appropriate. The adoption of such a model in the

investigation of certain physical illnesses such as cancer and cardiovascular disease has already paid rich dividends and a similar approach to the study of mental illnesses has therefore a number of attractions. Advances in the field of case definition and case identification, made possible by the new generation of structured diagnostic instruments and their allied taxonomic systems are perhaps the most important single factor related to the renewal of interest in psychiatric epidemiology. The systematic application of such methods in biological and epidemiological studies have further refined the selection and description of samples and it is now possible to specify with some certainty the boundaries and the relationship between dependent and independent variables. Another development has been the acknowledgement that psychiatric conditions are not confined to hospital populations and that there is a large number of individuals in the general population who fulfil the criteria for discrete and specific psychiatric conditions. This is particularly true of the affective disorders. A host of general population studies, in a variety of settings using rigorous and reliable diagnostic criteria (derived from our understanding of severe forms of mental disorder seen in hospitals) has confirmed this. Variations and similarities between general population and hospital or primary care based samples have allowed the testing of both nosological and aetiological theories about affective disorders.

Along with these methodological refinements and the broadening of the context of investigations, there have been some impressive advances in the theoretical understanding of mood disorders. Genetic, neurobiological and pharmacological studies have specified familial associations, consistent prognostic factors and an increased

understanding of the manifestations, if not the underlying pathophysiology of these conditons. Isolation of high risk groups and correlation of clinical phenomena with long-term outcome and treatment response are now possible. The links between environmental factors, both proximal and from early life, and disease onset, declaration and outcome are being increasingly specified. An interactive model, allowing for predisposing and precipitating factors has found increasing acceptance and is being used to test specific aetiological hypotheses.

The epidemiological approach could be carried further, to isolate and specify risk factors more precisely. The approach adopted here is, first to attempt a detailed descriptive epidemiology of affective disorders in both hospital and general population settings. A description of such a total picture of a given psychiatric disorder has a number of attractions for purposes of comparison and for service utilization. (It is acknowledged that the 'total' picture is by no means complete, since primary care settings are not investigated.) The analytical epidemiological approach when applied to these groups would emphasise the relative significance of risk factors.

This study is therefore planned and carried out with the intention of exploring the recent developments in the area and to test some of the current theoretical themes. It is however not intended to be an exhaustive or complete epidemiological investigation. The precise aims, objectives and methodology are discussed in Chapter 3.

The work described here is concerned only with women between the ages

of 18 to 65. The reason for studying only women is that they form a high risk group for affective disorders. The advantages of some kind of high- risk strategy are numerous and are discussed elsewhere (see, for example, Mednick et al 1983). An overwhelming number of studies of depression in Western societies report a significantly higher rate of depression in women than in men. A ratio of 2:1 is typically found in both general population surveys and in diagnosed and treated cases. By choosing only women it is also likely that the variations in antecedent and contemporaneous psychosocial factors could be reduced. Another reason for concentrating only on women is one of expense and time. For generating the same number of cases of psychiatric disorder as we found in women, the general popultion survey, at least, would have required twice the number of interviews among men. A further reason for limiting the study to women was because one of the aims of the general population study was to replicate and to test the findings of the Camberwell study (Brown & Harris 1978) which was exclusively concerned with women.

Finally, it is necessary to define what is meant by the term 'affective disorder' in the context of the present investigation. It is commonly understood that the terms 'mood disorders' or 'affective disorders' refer to a group of clinical conditions whose common and essential feature is a disturbance of mood accompanied by related cognitive, psychomotor, psychophysiological and interpersonal difficulties (Klerman 1984). But as Lewis (1934) remarked: "the words of psychiatry are often unjust setwards, sorry guardians of meaning, workers of deception". Although conventionally the category of affective disorders includes only depression and mania, anxiety neurosis can be regarded as a disorder in which the central feature

is that of a change of mood, and for this reason together with other features of this condition, it is sometimes classified as one of the affective disorders (Hamilton 1982). There is little doubt that the relation of anxiety to depression is intimate (Lewis 1934). Patients who are thought to suffer from anxiety and depression are often unable to distinguish one from the other (Leff 1978). Anxiety symptoms occur commonly with depressions and diagnostic distinctions between 'anxiety neurosis' and depressions are in such cases fraught with difficulty (Hays 1964). Clinical and nosological significance of such anxiety symptoms remains controversial (Klerman 1971). Various studies have suggested a close phenotypic relationship between symptoms of anxiety and depression (Downing & Rickels 1974, Akiskal et al 1978, Raskin et al 1982). Although such heterogeneity and phenotypic overlap could have serious confounding effects in epidemiological (as well as genetic and biological) studies, atheroetical distinctions based only on conventional, hierarchial classificatory schemes can, on the other hand, obscure meaningful relationships between the dependent and independent variables. A study by Leckman et al (1983) illustrates this problem. In this case-control study of depression, a marked increase in risk for a number of psychiatric disorders among relatives of probands with depression and panic disorder were found. If probands with only depression were studied such a familial relationship would not have been evident. Such heterogeneity and overlap of depressive and anxiety symptoms are also shown by follow-up studies (see, for example, Kendell 1974, and Munby & Johnson 1980), and treatment response studies (Johnstone et al 1980, Ancill et al 1984). In a recent review article Tyrer (1985) has drawn attention to the drawbacks of the present classificatory schemes in relation to neurotic conditions and the pitfalls in making

subtle distinctions among these symptom groups. He suggests that classifications that only operate through arbitrary rules that have no clinical meaning and which have no longitudinal stability are almost worse than no classification at all. General population studies provide further proof of the advantages in considering anxiety disorders along with primarily depressive states. Goldberg and Huxley (1980) show that, on the basis of standardized psychiatric interviews and questionnaires, with some exceptions, most psychiatric patients have a common core of symptoms which relate to mood disorders - notably anxiety, depression, fatigue, irritability and sleep disturbance. The exceptions, the authors claim, fall into two groups: major disorders such as hypomania, schizophrenia and some organic states and secondly, various kinds of abnormal personality.

In general population studies a division between "cases" and "non-cases" is customary. In the former category are included all those with symptoms (of such severity and numbers as to meet operational criteria for a particular diagnosis) of anxiety and depression but excluding organic disorders and florid schizophrenic symptoms. Since the comparison of hospital treated cases with general population cases is at the heart of this thesis, and also because of the lack of convincing evidence of the need to separate out anxieties and depression in aetiological enquiries, both conditions are included under the term affective disorders. Diagnostic stratification is, of course, attempted wherever appropriate.

SOME BASIC ISSUES CONCERNING METHODS

CHAPTER 2

SOME BASIC ISSUES CONCERNING METHODS

As clinical and laboratory studies are yet to produce substantial aetiological discoveries in relation to mental illness the epidemiological approach is gaining increasing acceptance within psychiatric research. Since the early 1950's when the concepts of relative and attributable risk were first introduced in the epidemiology of non-communicable diseases (Cornfield 1951; Levin 1953) and when epidemiology itself was beginning to be seen as a conceptual approach or as a method of reasoning about disease (Lilienfeld, 1978) and which was being applied to the study of chronic diseases with no single aetiology, research strategies stemming from these concepts have become firmly established in medicine (Jablensky 1984). With a certain time lag, these approaches were absorbed into psychiatry and currently the epidemiological inquiry along with psychopharmacological and biological marker studies are at the forefront of psychiatric research.

The epidemiologic approach is seldom able to specify aetiology by its findings alone. However, in investigating chronic diseases or diseases with multifactorial aetiology, knowledge gathered through epidemiological studies is of invaluable help in generating specific aetiological hypotheses that could be tested by further experimentation or laboratory investigations. The success of such an approach can be seen from investigations of physical diseases such as atherosclerosis (Benditt 1977) or more spectacularly in Gajdussek's studies of Kuru (1977). In the study of psychiatric disorders such as

schizophrenia or manic depressive illness the epidemiologist is concerned with unravelling clues about the likely aetiology of those conditions by seeking information on the nature and differential distribution of the dependent variable so specified. Such an approach will primarily concern itself with producing three classes of information. These are to do with : 1) Disease rates (incidence, prevalence, morbid risk, etc.) 2) Variations in these rates by person, place and time and 3) Specification of risk factors based on the variation in rates. The availability of such information will guide the researcher to formulate aetiological hypotheses that could be further tested with reference to particular theoretical or concetpual framework.

Psychiatric epidemiology, or more specifically, the application of statistics to the study of mental disorder, began nearly 150 years ago with the work of Esquirol (1838) in France and Prichard (1835) and William Farr (1841) in England. According to Weissman and Klerman (1978) the first partially completed attempt to investigate the true prevalence of mental disorders, i.e. both treated and untreated cases in a community in the United States was conducted in Massachusetts in 1855 although federal efforts to secure separate enumeration of the institutionalized mentally ill had already begun in 1850 (Malzberg 1959) and the movement of institutional patients was available from statistical reports dating back to the beginning of the century (Pollock 1945). In Scotland Stark (1851) was the first one to draw conclusions from hospital enumerations of the mentally ill and by showing there was more insanity among the poor than the rich he challenged Esquirol's views regarding 'civilisation' and mental illness. Others have credited Andrew Halliday with

conducting the first surveys of prevalence of mental illness. In seeking to find out the extent to which mentally disordered were receiving treatment in Scotland in the 1820s he enumerated all those in mental institutions and in addition, through a key informant, attempted to determine the number of non-institutionalized mentally ill (Leaf et al 1985). As Taylor and Chave point out (1964) these early studies are of greater interest for their intentions than for their findings, which were based on very inadequate data.

Many of the subsequent studies concerned with the epidemiology of affective disorders are discussed later in this chapter. Here, what I wish to emphasis is the attraction of the epidemiological approach, even in its most rudimentary form, to psychiatrists and researchers concerned with detecting a coherent and consistent pattern in the occurrence of mental illness. Clearly the advantage of such studies is that it informs the researchers of further, fruitful avenues of enquiry.

In spite of its long history, the value of the epidemiological approach in relation to affective disorders is still viewed with scepticism because of the lack of consistency and validity of its findings. As Kendell (1983) remarks, the epidemiology of mood disorders is in a state of some confusion at present. He suggests three principal reasons for this : "There is", Kendell suggests, "no satisfactory agreed classification of depressive illness; it is undecided where, or even by what criteria, the dividing line should be drawn between normal unhappiness or despondency and illness, and population surveys based on questionnaire responses consistently yield much higher estimates of the prevalence of depression, and

different demographic relationships, from those based on interviews". In fact, these and other methodological uncertainties that have beset epidemiological enquiries in the study of affective disorders have proved to be enduring and often seemingly insurmountable obstacles to the emergence of consistent and clear-cut picture of the distribution and determinats of illness. It is therefore, necessary to specify these difficulties before considering the detailed results of epidemiological studies in affective disorder.

METHODOLOGICAL PROBLEMS IN THE EPIDEMIOLOGY OF AFFECTIVE DISORDERS

All the major reviews of the epidemiology of affective disorder, nearly as common as the studies on which they are based (Silverman 1968; Lehman 1971; Klerman & Barrett 1973; Rawnsley 1974; Perris 1976; Turns 1978; Bebbington 1978; Krauthammer & Klerman 1979; Boyd & Weissman 1982; Hirschfield & Cross 1982) acknowledge the various methodological problems and ascribe to them the variability in rates and findings between studies. Since the basic epidemiological approach is one of enumeration these difficulties can be considered quite appropriately as those concerned with the numerator and those pertaining to the denominator, or as Bebbington (1978) in his piscatory analogy suggests, the question could be "Which fish in which pond?"

Problems of the numerator :

Alexander Leighton, when considering the trends and directions of

psychiatric epidemiology suggested that as long as epidemiology was concerned with counting phenomena it stood a good chance of generating data that had some measure of usefulness (Leighton 1979). The problem is, however, how these phenomena can be consistently defined so that there is some uniformity in what is counted and how it is counted. The problem of the numerator is essentially one of case-definition. Given the central problems in psychiatric diagnosis or even in deriving some universally accepted criteria for what constitutes mental illness it is not altogether surprising that epidemiological research in psychiatry shares this uncertainty. Kendell (1975) comments that the "failure, or inability to define adequately the essential common characteristics of the patients who consititute its subject matter ..... is the most serious defect of contemporary psychiatric research". There is also no satisfactory classification of affective disorders and the problem is the depressions (Kendell 1983). It is, therefore, not surprising as Boyd and Weissman (1982) point out, that the study of the epidemiology of depression has been hindered by major differences in diagnostic classification over time, between countries, and among investigators and clinicans within the same countries. The same terms have different meanings in different diagnostic schemes and different terms have the same meanings in different diagnostic schemes (Klerman 1980). The conceptual and theoretical differences that underlie such differences and the unreliability of the diagnosis even within the same diagnostic system have been fully explored by a number of empirical studies (for example, Cooper et al 1972) and in detailed reviews (see Kendell 1976). Added to this are the non-standardised methods of collecting data on clinical signs and symptoms (Spitzer et al 1975). The diagnostic variability in defining affective disorders

is dealt with in detail later in this chapter. What is obvious when considering the lack of agreement in case definition is the problems that would ensue, if in the context of epidemiological research no single definition is universally accepted. Unlike the medical epidemiologist who can rely on observable and physical representation of illness to identify and measure the dependent variable the psychiatric epidemiologist is forced to rely on his clinical opinion (Britchnell 1974). This would be fine if clinicians are only called upon to distinguish between something grossly different from the usual, as most of them spend a great deal of time in setting aside the 'abnormal' from the normal. However, when subtler distinctions are to be made, such 'clinical opinion' is more likely to be suspect. These problems are not exclusive to identifying or defining mental illness. As Fletcher et al (1982) point out, the physician who has to rely exclusively on clinical presentation of illness to make a diagnosis is also faced with a difficult task. Is, for example, fleeting chest pain pleurisy or something inconsequential? Is a soft systolic heart sound a sign of valvular disease or an innocent murmer. Which patients with sore throat and hoarseness have a 'garden variety' pharyngitis and which the rare but potentially lethal haemophilus epiglottitis? So in one sense, the problem of case definition is not peculiar to mental illnesses. It is not the disturbance (more often the only disturbance) of part-psychological functions per se which make psychiatric conditions difficult to define or measure - it is the absence of any consistently observable or objective representation of the dysfunction or disease which makes its presence or absence purely a matter of consensus clinical opinion.

In the study of affective disorders the problems of case definition are even more fraught with heuristic problems as the investigation moves out of mental institutions to include the community at large. As Williams et al (1980) remark, with the development of psychiatric epidemiology the focus of enquiry has shifted from severer forms of morbidity found in hospitals, towards the community and the investigation of lesser degrees of morbidity. There has however been no change, Williams and colleagues (1980) suggest, in the concepts and methods of case definition. These authors, in a review of the methodology of case-finding (Williams et al 1980), had dealt with this problem in greater and commendable detail. Their paper spelt out the problems that arise out of the use of the clinically identified patient as the yardstick for 'caseness' in epidemiology. There are:

i) problems of process, which identified the differences in the decision to enumerate a case as against diagnosing a case, the variation in the type and content of information gathered and the different but overlapping areas of interest that clinicians and epidemiologists pursued.

ii) problems of definition, validity and reliability with clinical diagnosis and,

iii) the unrepresentative nature (in relation to the general population at large) of illnesses and patients seen by the clinicians.

The authors however, like many others who failed to resolve these

problems, emphasised the need to adopt a multiaxial categorisation of 'caseness' which would include measures of personality and social functioning in addition to that of symptomatology. Although this might increase the relevance of what is meant by a "case", by introducing other variables which are equally resistant to reliable calibration or measurement, it must be a matter of considerable doubt whether such an approach will make it any more likely to increase the ease or consistency of case-definiton.

Goldberg and Huxley (1980) also call into question "the arbitrary standards" by which "cases" in the community are defined. They suggest that where major psychiatric illness is concerned (organic mental states and the major psychoses) problems of taxonomy are not so great since these conditions are discontinuously distributed in human populations. A typological rather than a dimensional model is thought to fit the facts as they are known, in relation to these conditions. The matter is not entirely without controversy, at least as far as 'functional' or non-organic psychoses and especially affective psychoses are concerned. (See, for example, Kendell & Gourlay 1970). Goldberg and Huxley (1980) are however concerned with the major difficulties concerning the most sensible way of classifying minor depressions and anxiety states. They suggest that becuase it is still too early to say whether the processes underlying depressive illnesses are continuous or not, and because there appears to be an unbroken continuum between severe, psychotic states on the one hand and minor mood swings on the other, it is possible to see all those suffering from mood disorders in a linear fashion along a dimension of severity. The selection of cases from along this continuum will depend upon the purpose of a particular investigation.

However elegant or flexible such an approach is, we are, as Kendell points out (Kendell 1975), whether we like it or not, now and for the forseeable future very dependent on diagnostic distinctions, not only in everyday clinical practice but perhaps even more so in our research. Epidemiological research is no excpetion and as long as the conditions we study and enumerate are not verifiable by an externally validating criterion the problems of the numerator will remain.

In addition to these substantive problems central to case definition, the poor reliability of psychiatric diagnosis makes case identifcation an imperfect business (see, for example, Beck et al 1962). There are also major differences in the usage of diagnostic terms between one country and another, and even between different centres in the same country (Rawnsley 1967; Kendell et al 1971). Although impressive advances have been made in this area in the last ten to fifteen years (the renaissance of psychiatric epidemiology, Klerman 1985) the advent of the 'operational' criteria for diagnosis and structured interview schedules has not fully resolved problems associated with case identification. However, as the shift from the epidemiology of mental health to an epidemiology of mental disorder is forecast (Weissman & Klerman 1978) case-finding techniqes have become more reliable and to some extent more uniform.

Williams et al (1980) remind us that in spite of these gains methodological problems with case-finding instruments are still a matter for concern. These authors suggest that there is no agreement on which symptoms are to be measured especially in the context of general population studies. The quantification of symptoms (number

versus severity), the time period over which symptoms are assessed, problems with response bias and finally the conceptual meaning of what is measured are all questions which are not adequately dealt with by the new generation of case-finding techniques. This is especially so in the study of affective disorders as a variety of 'dysphoric' symptoms all contribute to the clinical syndrome of depression and decisions are constantly demanded from epidemiologists in choosing appropriate cut-offs for these symptoms when assessed in general population samples.

More recently questions about the validity of these diagnositic criteria and diagnostic interview schedules as applied in community studies are beginning to be articulated with more vigour. Studies by Anthony et al (1985) and Helzer et al (1985) have raised important issues concerning what Spitzer & Williams (1980) labelled as the problem of 'procedural validity', or the lack of agreement between structured interviews conducted by lay interviewers and clinical interviews conducted by psychiatrists (Klerman 1985). Robins (1985) has dealt with some of these anxieties in detail.

In the study of epidemiology of affective disorders we would be better to bear in mind the words of Reid (1960). He observed that "case-finding methods should have the quality of the perfect witness, in that they tell the truth, the whole truth, and nothing but the truth. Further, they must go on doing this consistently and reliably for the whole period of the investigation. If this ideal is not obtained, at least the observer should know by how much his methods fall short of it".

Problems of the denominator:

The second methodological problem in the epidemiological study of affective disorders is the choice and definition of the population for investigation. If the problem of the numerator is that of case-finding, the problem of the denominator is that of defining the population under study (Wing 1975).

The earlier studies of affective disorders were almost exclusively concerned with inmates of mental hospitals. The assumption that nearly all cases did result in hosptial admission (Odegard 1952) may have been correct for that time especially if schizophrenia was the condition under study. It certainly would not be the case today for affective disorders. In their book, examining the pathways and mechanisms by which individuals reach psychiatric hospitals, Goldberg and Huxley (198Ø) estimate that less than 1 in 1Ø individuals from the general population morbidity pool reach in-patient care. They also demonstrate that the clinical symptoms and their demographic relationships differ depending on which stage in the pathway is used to generate study samples. Other studies (Shepherd et al 1966) are consistent with this model in terms of the differential that exists between the pools of morbidity, as identified in the general population, general practice or psychiatric clinics. Characteristics of those at one level are not the same as others at a different level (Finlay-Jones & Burvill 1978, Finlay-Jones 198Ø, Mezey & Evans 1971, Sims & Salmons 1975). Finlay-Jones (198Ø) listed seven major differences between community residents detected as 'cases of neurosis' in general population surveys by psychiatric epidemiologists and those who had sought treatment (declared patients

with neurosis). After reviewing the evidence he concludes that community cases :1) have a lower ratio of neurotic symptoms to dysthymic states, 2) have a lower proportion of mixed (i.e. depression and anxiety together) dysthymic states, 3) have a shorter duration of symptoms, 4) demonstrate symptoms that are less severe and 5) less intense and show 6) more social dysfunction in the absence of symptoms and 7) tend to have symptoms without major social impairment.

Although more recent studies have tended to emphasise the severity and chronicity of community cases (Brown & Harris 1978, Surtees et al 1985) the differences between general population cases and those who consult are acknowledged by all comparative studies. As Brown et al (1983) and Tennant et al (1982) have shown, factors other than symptoms could be related to pattern of service utilization and these authors suggest that such factors might include aetiologically important variables.

Goldberg and Huxley (1980) summarise the variables relating to characteristics of the patient (or 'cases') which determine the ease with which he or she will pass through the various 'filters' that the authors suggest exist between different levels of care. They show that severity of the disorders, marital satus, employment and economic status, play an important part in determining who from among the general population would seek help from primary care physicians. Ingham and Miller (1976) in their controlled study of general practice consulters suggested that variables other than severity of an individual symptom determined whether medical help was sought. In Goldberg et al's study (1976) it was shown that psychological

symptoms were more severe among consulters than in a random sample of the same popultion at risk. However, the evidence that Goldberg and Huxley (1980) present indicate that if those with psychiatric symptoms on either side of 'the filter' are sampled (consulters and general popultion) those who seek help will have disproportionately more 'lonely people', divorced and separated women, unemployed among them. The authors also conclude from the available evidence that there are major differences (both clinical and socio-demographic) between those who are referred to psychiatrists and others who are not. In relation to the general pool of morbidity in the community and those with symptoms in primary care, psychiatric clinic attenders are more likely to be suffering from severe, chronic disorders and will have a greater proportion of younger age groups, separated/ divorced/widowed women, unmarried men and women, and "better educated" people. In the UK men are more likely than women to be admitted to hospital care.

The choice of one's sampling frame will therefore determine to a crucial extent what kind of illnesses and what kind of people are likely to be picked up. Psychotic depression, delusional depression, mania and severe anxiety states are less likely to be represented in general population samples. Furthermore, hospital treated depressions will have a stronger association with younger age group, women who are not married and living with a husband and higher educational achievement but such an association is more likely to be a product of selection factors that influence the process of referral to the hospital. Referral process in both physical and psychological medicine are often related to prognosis and this could introduce another kind of sampling bias.

REVIEW OF THE LITERATURE

CHAPTER 3

SECTION I

DESCRIPTIVE EPIDEMIOLOGY OF AFFECTIVE DISORDERS :

The second part of the literature review attempts to bring together published results on the extent of the morbidity from affective disorders. Historically, the epidemiological study of affective disorders has progressed from relying on hospital based information on morbidity to general population surveys. In the early years of psychiatric epidemiological research, the routine collection of general and clinical information of hospital treated cases made it possible to examine hospital records or other secondary sources of data for trends and associations. There was also the belief that most, if not all, individuals suffering from mental illness eventually came to the hospital. This assumption however could not be sustained for long, given the gradual shift of psychiatric care facilities from institutions to include primary care. The dissatisfaction with hospital based statistics was however not entirely due to the realisation of the extent of psychiatric morbidity, that hospital treated patients were only a proportion of all those with mental disorder. Researchers and service planners had also begun to understand that those utilizing mental health facilities were probably unrepresentative of the group of mentally ill as a whole. Administrative-type morbidity statistics (as Kramer (1976) calls them) or morbidity rates in which the numerators are

derived from counts of patients admitted to psychiatric facilities, are biased by many selection factors. The availablity of mental health services and their accessibility and attitudinal factors related to doctors and patients all influence decisions concerning inception into hospital treatment (Kramer & Taube 1973; Brooke 1973, Tischler et al 1975).

Terris (1965) has reviewed some of the drawbacks in the use of hospital admissions in epidemiological studies of mental disorders. The severity of the illness will determine to some extent whether hospital admission in sought. In the U.S. at least, unskilled labourers are less likely to seek help for minor ailments and this could lead to erroneous conclusions concerning the relationship between social class and illness. Terris also points out that class differences could operate in the opposite direction with poorer people being admitted more easily and being kept for longer periods in hospitals because of poor housing conditions. The alternatives to state hospital facilities in the form of private care could also lead to certain sections of the population being under-represented in hospital statistics. Terris cites a study (Wilson & Lantz 1957) which appeared to demonstrate an increase in the ratio of mental hospital admisions between blacks and whites in a period of 37 years since 1918. However, when the admission rates were corrected to include admissions to private hospitals it was noted that, in fact, the ratio had not changed at all in the period of the study.

Studies looking at the utilization of mental health services also show that both severity of psychopathology and sociodemographic factors contribute to service consumption. Prevalence estimates

based on hospital samples are therefore likely to be influenced by these factors. Tischler et al (1975) specifically looked at the relationship between the prevalence of symptomatology in the community and utilization of a mental health centre by members of that community. This involved a household survey of a random sample of the population (n = 938) during which socio-demographic and mental health assessment was carried out. A one year admission sample for the mental health centre was examined (n = 8Ø8) to see how it reflected the prevalence pattern in the community. Their findings suggested that middle-aged women and persons over 3Ø with low income tended to be 'under-represented' in the clinic population while those who were isolated or lacking in social support were 'over-represented' in the patient sample. This study was more than a comparison of community and hospital samples in the sense that it tried to control for the prevalence of disorder in the general population. The relationship between lack of social resources and patienthood was confirmed in a more recent study from Norway (Lavik 1983).

Incidence rates based on hospital admission are particularly misleading because of the powerful effects of selection factors. In addition, first admission rates contain up to 1Ø per cent re-admissions and this proportion is likely to differ from place to place depending on the rigour with which such information is collected and verified (Brown et al 1961). Terris (1965) also points to the influence that diagnostic differences between centres could have on disease specific rates. This is amply illustrated in the U.S.-U.K. studies (see, for example, Cooper et al 1972, Kendell et al 1971).

The following review of hospital based morbidity estimates of affective disorder must therefore be seen as representing only a proportion of total morbidity and furthermore such proportions are open to wide variations for different socio-demographic and clinical groups because of selective influences.

Hospital based epidemiological studies of affective disorders have a very long history (Pollock 1945, Silverman 1968, Brooke 1959). These have relied on admission rates to mental institutions and the utilization of other clinical records. Estimation of disease rates had been the main objective of such studies and this was achieved for administrative reasons as well as in the context of descriptive or aetiological research. In the last 25 years, hospital activities of mentally ill patients (admissions, discharges) have been collected more systematically in certain geographically delimited areas and such psychiatric case-registers have been exploited to study epidemiological questions. National statistics of mental hospital admissions, discharges, etc. are another source of such studies. In the study of affective disorders, all three sampling frames, i.e. individual hospitals, psychiatric case-registers and national statistics have been used to derive epidemiological estimates.

The disadvantages of hospital based epidemiological studies are many and some have been already considered. There are additional problems in interpreting morbidity statistics derived from hospitals. First admission rates for example are often taken as an indicator of inception rates but as Kramer (1969) points out, first admission rates are only reflections of incidence rates between regions (or

time periods) if the ratio of first admissions to new cases is identical. Another source of error in hospital based statistics, especially in the study of specific disorders such as affective illness, is the peculiarities and inconsistencies of diagnostic practices. In the U.K., for example, some depressive disorders used to be classified under 'psychoneurosis' and there was no way of knowing how many individuals with depressive disorders were subsumed under this category. The clinician who is returning the diagnostic forms is subject to how he sees the current balance in the continuing controversy about the nosology of depression (Kendell 1976). Comparisons between earlier and more recent statistics are subject to errors due to the official changes in classifications (e.g. changes in the International Classification of Diseases, now in its 9th revision). International comparisons are even more sensitive to such factors, stemming from differences in classificatory schemes and variations in diagnostic habits of clinicians that exist between countries. Unlike the case-registers, national statistics do not have any method by which the accuracy of information is verified nor do they have provisions to minimise duplicated counts. There is a margin of 10 to 15 per cent error in the way first admissions are designated in case- registers and it would be reasonable to assume that national statistics have a wider margin of error. Sources of error in data collection systems such as the case register or the national reporting system are discussed by Baldwin (1971). It is a truism that extensive collections of data almost always incur penalties in larger proportions of error than small, carefully and systematically controlled samples.

In spite of these drawbacks, hospital based studies have continued.

Apart from historical reasons there are other factors which have contributed to it. The administrative, legal and policy requirements of service provision certainly play a part. There are other advantages of hospital based studies which make them a useful source of information in the epidemiological investigation. Hospital or national statistics refer to a known base population and local socio-demographic peculiarities are less likely to influence the results. The case-registers have additional advantages, as summarized by Wing (1972). In addition to having a defined and often well-described denominator, the avoidance of selection biases and duplicated counts make them more reliable than national statistics. Case registers are also based on a much wider canvassing of relevant agencies. Perhaps the most attractive feature of the case-register is the potential for longitudinal studies. Similarly, trends over time are most economically studied using hospital based annual counts.

A review of hospital studies immediately makes it clear that these investigations differ in a number of ways. Major methodological differences between the studies make it almost impossible to achieve systematic comparisons. Quite apart from the idiosyncrasies of diagnosis and variations in denominators used, they are often selective in the kinds of descriptive epidemiological estimates. Some have been exclusively concerned with looking at historical trends and others are addressed to calculating prevalence or incidence rates and rarely both. A few studies have relied on additional information obtained through informants other than patients and a small proportion have made use of existing data from other agencies. Diagnostic classes enumerated by these studies are also not uniform. Distinctions between depressive psychosis,

neurotic disorder (depression) and manic-depressive illness or bipolar illness are not always obvious and indeed in many instances not all diagnoses are considered. What follows is a detailed review of epidemiological studies concerned with affective disorder as encountered in hospitals and community settings. The main emphasis in this chapter is on morbidity statistics and descriptions of affective disorder. Literature pertinent to this question is considered under the following headings :

(1) Hospital based studies (a) of prevalence
(b) incidence of the disorder

(2) General population studies.

There is bound to be some overlap between community and hospital based studies especially by those surveys which attempted to calculate 'total prevalence'. Because such studies were largely conducted from institutional settings and case definition was, by and large, heavily influenced by hospital based criteria, these total prevalence studies are discussed under 1(a) or (b). General population studies on the other hand are limited to what Dohrenwend et al (1980) have described as 'true prevalence' studies, or epidemiological studies using community samples and which involved direct interviews.

1(a). Hospital based studies of the epidemiology of affective disorders - Prevalence

The Mental Hygiene study of the eastern health district of Baltimore

was perhaps one of the earliest, systematic attempts at enumerating the prevalence of specific psychiatric disorders (Lemkau et al 1941, Lemkau et al 1942, Cohen & Fairbank 1938). This investigation began in 1933 and covered a racially mixed area of Baltimore with a population of 50,000. Part of the study involved a general population survey and case-finding consisted of scrutinising the records of all hospitals, clinics, special schools, social agencies and the local health department to discover all those suffering from active mental illness. The material collected in this study made possible for the first time, for any region in the U.S., the calculation of prevalence rate of psychosis regardless of whether individuals were in hospital or not. As determined by hospitalization rate in 1933, the rate for 'psychosis' (predominantly schizophrenia, but inclduing manic depressive psychosis) in the eastern health district was 453 per 100,000 population but on including all the cases identified during the scrutiny of other relevant records it was estimated that the true prevalence of psychosis was 600 per 100,000. The fact that 25 per cent of the psychotic individuals were not hospitalized (and were not under psychiatric treatment) was the first indication that the pool of psychiatric morbidity was spread beyond the boundaries of institutional psychiatric care. It is also interesting to note that this observation was made nearly four decades before the advent of currently fashionable ideas about community psychiatric care.

The Williamson county survey of 1938 by Roth and Luton (1943) followed the Baltimore study. The study was again an attempt at calculating total morbidity. It was carried out in a rural area of Tennessee with a population of about 25,000 scattered over an area of

500 square miles. Case finding consisted of record scrutiny as well as 'field survey' in three districts and a 15 per cent urban sample. Case criteria were based on 'observation' and clinical impression. The general population survey took a number of years to complete. Referred cases were ascertained on a prescribed census date by a search of the relevant records and by means of home visits.

It is interesting to note that the annual prevalence rates estimated by both the Baltimore and Williamson county studies were remarkably similar for all psychiatric disorders (6 per cent) as well as for all psychoses (0.6 per cent). There were 41 individuals with affective psychosis in the latter group in the Roth & Luton study and the point prevalence was 165.3 per 100,000 for this area. In addition, 39 individuals with a diagnosis of affective neurosis (point prevalence 157.2/100,000) were identified. The authors had estimated the rates on the basis of all relevant information and it is interesting to note that only 44 per cent of those with an affective psychosis were considered to be psychotic on the census day.

In both these studies only sparse details about the criteria for case-definition are given since diagnoses were obtained through clinician ratings (at least for the referred cases) although some uniformity in such practice could be assumed. Only 9 per cent of the total prevalence was due to a primary diagnosis of psychosis and the largest diagnostic class was conduct and behaviour disorders with 24 per cent of cases. This latter category also included alcoholism and drug addiction (12 per cent of this group) as well as such diagnostic curiosities as "miscegenation' and promiscuity. The Tennessee study, like the Baltimore survey before it, confirmed that a large

proportion of individuals with psychoses (50 per cent) were not hospitalized. Even allowing for over-inclusiveness in the diagnosis of schizophrenia in the United States as indicated by later observations (Rawnsley 1967, Cooper et al 1972) and the paucity of psychiatric facilities in the areas studied, this is still a surprising finding.

Following the Second World War, epidemiological investigations of mental illnesses began to be directed more and more towards addressing the problems of general population morbidity and the sociocultural determinants of these conditions. The classic study of Faris and Dunham (1939) which had given statistical validity to the notion that environmental factors played an important role in the aetiology of mental illness had in addition provided a persuasive theoretical understanding of such an interaction. This, combined with the increased interest in theories of personality and neurosis created during the war years, led to a host of epidemiological studies concerned with "mental ecology". As far as hospital based epidemiology of affective disorders was concerned, the investigation by Hollingshead and Redlich (1958) in New Haven is the next high point. Defining a case of mental illness as a person under the care of a psychiatrist (or other accredited mental health professional) whether in or out of hospital, they carried out a prevalence study of all such cases in an urban area. Leaving aside the comparison of such cases with a sample of the general population (which incidentally showed a social class gradient in the prevalence of treated illness - a finding that was to become the main reason for the study to be remembered by researchers and examiners alike) the study is relevant here because it enumerated treated morbidity from

affective disorders. Based on the figures provided by the authors and using the population in the study area above the age of 15 as the denominator (n = 191673) the following rates are calculated. They refer to six month period prevalence. There was a total of 1891 cases (1442 or 76 per cent designated as 'psychosis') which gave a period prevalence rate for treated psychiatric morbidity of 986.6/100,000. In the psychosis group there were 160 individuals diagnosed as suffering from 'affective psychosis' producing a period prevalence rate for this condition of 83.5/100,000. Perhaps not surprisingly (given the overinclusive concept of schizophrenia in the immediate post-war period in the U.S.) 59 per cent of psychotics were thought to be suffering from schizophrenia. If it can be assumed that a large proportion of this latter category might have received a diagnosis of affective illness in the U.K., from a British point of view, the rate for affective disorders is likely to be an underestimate.

Hollingshead and Redlich's main finding was the class gradient that existed in the treatment provisions of psychiatric cases. The overall age and sex adjusted rates also showed that Class I and II was only one-third of Class V. For affective psychosis a class gradient existed in relation to the treatment agencies and this was evident from the observation that the lower the class of the patient, he/she was more likely to be in a state hospital.

Calculation of disease-specific rates was not the main aim of the study. In this work therefore it is not surprising to find that diagnostic niceties are glossed over and no details about specific diagnostic groups are given. The overall concept of the

relationship between "mental illness" and social class tends to obscure subtler associations that might be present in reference to single and more homogenous diagnostic groups such as depressive illness.

Next in this series of American studies is the one by Pasamanick, Roberts, Lemkau and Krueger (1959) - a "most valuable study", according to Taylor and Chave (1964). The studies began in 1952 in Baltimore and formed part of a survey of chronic illness undertaken by a commission founded jointly by the American Medical Association, the American Hospital Association, the American Public Health and Public Welfare Association. The psychiatric component of it could be seen as the "second generation" Baltimore study and apart from Lemkau's involvement one can easily discern a number of similarities both in goals and methodology between this and the 1933 'mental hygiene' study. The major question was again concerned with 'total prevalence' in the community. This was achieved by a two-stage community survey (as part of the chronic illness study). Firstly, a random sample of 4000 households was chosen and members interviewed about their health and secondly, a clinical examination of a 10 per cent stratified sample, according to the nature of the illness they reported in the first interview. In addition, all Baltimore residents in Maryland State and private psychiatric hospitals on a given census date were enumerated, based on hospital records. A 50 per cent systematic sample in the Veterans Administration was added to it. The total point prevalence rate of psychoses in the population was 8.8 per 1,000 of which 4.3 per 1,000 was in non-institutional care and the remainder in hospitals. The total prevalence of neurotic, psychotic and psychosomatic disorder combined

in the non-institutional setting was 93.4 per 1,000 and the prevalence of neurosis was about 12 times that of psychosis.

Although this investigation, like its predecessor, was largely based on secondary data population cases were estimated partly using clinical investigation. However, there was still no standardised case definition and assessment procedures were subject to bias and possibly over-reporting. For example, a point prevalence survey of 809 individuals (from the general population survey and clinical examination) yielded a psychosis rate of 4.3 per 1,000, i.e. 35 individuals, the majority of whom received a diagnosis of schizophrenia. Most American studies of the time similarly showed a high prevalence of psychosis in the community. Apart from the lack of rigour and perhaps consistency in case-finding and in case-definition in these early studies, interest in specific diagnostic categories was limited. None of these studies had set out to examine diagnosis-specific prevalence nor was there any systematic attempt to tease out particular aetiological factors in relation to single disease conditions. The predominant theme of these investigations was to consider all illnesses, both institutional and in the community, psychoses and psychoneuroses, usually as one category and in aetiological consideration to treat them together as having some relationship to factors such as social position, urbanicity or some other environmental variable. The emphasis on 'total prevalence' however indicated very strongly that these studies were primarily concerned with assessing the magnitude of the problem of mental illness and thus providing the need for interventions such as 'mental hygiene' programmes (Lemkau, 1973) or other strategies of prevention.

Priorities on this side of the Atlantic were somewhat different. Although the first survey of mental disorder based on intensive case-finding procedures in the U.K. was conducted in 1929 (Lewis 1929) a major epidemiological investigation concerned with psychotic illnesses (or of hospital treated affective disorders) was not achieved until Shepherd's study of psychoses in Buckinghamshire (Shepherd 1957). Since this study was concerned with first admission rates (and thus inception) it is considered in the next section along with the other major British study of the time by Norris (1959).

Some of the most detailed and intensive epidemiological studies in affective disorders in the 50s and 60s were conducted in the Scandinavian countries. They included both population studies and investigations based on secondary data such as hospital studies. Stemming from Brugger's 1921 work in Thuringia in Germany, which was probably the first methodical attempt to assess the volume of mental disorder in a defined community (Taylor & Chave 1964), Stromgren (1938) in Denmark, Odegard (1946) in Norway, and Sjoegren (1948) in Sweden had initiated population surveys along with intensive searches of records of mental hospitals. One of the most intensive studies of this period, based on secondary data, especially hospital records and concerned primarily with depression, is Helgason's study (Helgason 1961) in Iceland. Following Klemperer's catamnestic method he studied all the secondary data available on a cohort of over 5,000 people born in Iceland during 1895-1897 and who had survived to the end of 1910. The termination of the observation period was set as July 1, 1957 and on that date there were 147 out of 3843 living probands who were considered to be depressives and had "more or less pronounced mental symptoms which predominated in their condition".

This gave a point prevalence of depression of 3.82 per 100 with women showing slightly less than double the rate for men (4.4/100 and 2.7/100). For women the point prevalence of depressive psychosis could be calculated as 1.4/100 and endogenous depressive psychosis as half of that. In his calculations of life-time prevalence he included those who had died before the termination of the study and for women and for all categories of depression it was 6.9 per cent while in the women who had survived to the end of the study life-time prevalence was 7.5 per cent.

Helgason in his paper cites earlier studies in Scandinavia which had followed similar methodology and had arrived at comparable morbid risk estimates. The investigation by Fremming in 1947 on the island of Bornholm and Essen-Moller's study (1956) in a Swedish rural population were equally thorough in their search for historical details from case-records and other documents. However, it is worth noting that only 32 out of 175 individuals (18%) with a diagnosis of manic depressive psychosis had required hospitalization in the latter study.

One of the most important epidemiological investigations in Scandinavia, or for that matter in the recent history of psychiatric epidemiology, has been the Samso-Aarhus studies from Denmark (Nielsen et al 1981) started in 1957. One of the early reports from this project attempted to derive prevalence estimates for the population on the island of Samso and the frequency of depressive states was reported in 1961 (Sorensen & Stromgren 1961). Using 1 January 1960 as the census day they estimated that 171 out of 4399 people above the age of 20 were suffering from depression. Case-finding was based

on hospital and other records with clinical interviews where possible. The point prevalence of depression was 3.9/100 which was almost identical to the rate obtained by Helgason (1961) in Iceland (3.82/100). Diagnostic sub-division showed that 15% of these had endogenous depression, 8% psychogenic depression and the great majority depressive neurosis. Point prevalence rate for endogenous depression was 0.6/100, for psychogenic depression 0.3/100, and for depressive neurosis 3/100. The female to male ratio for all depressions was over 3:1. Like the Icelandic study, this study also relied on a combination of case-finding methods using a variety of sources. The Samso study was also dependent on a number of investigators making diagnostic decisions on the basis of different kinds of information and there was no systematic attempt at monitoring the reliability of such ratings. These studies on the other hand were already wearing the hall-marks of classical Scandinavian epidemiological investigations. They show a thoroughness of approach as far as making use of all available sources of information, with great care taken in scrutinising all such data on all available people within a geographically limited but well defined population. Another feature of these studies is that they are almost exclusively concerned with rates and morbid risks related to diagnosis, age and sex and do not, as a general rule, concern themselves with other specific independent variables as determinants of illness. Diagnostically, they rely on clinical diagnosis arrived at on the basis of mostly historical information. As Silverman points out (Silverman 1968), the course of epidemiological studies in Europe, and especially in Scandinavia, was influenced by interests in psychiatric genetics and consequently its main emphasis was largely on disease expectancy or incidence. The

availability of well- documented and detailed registers on all individuals and the relative rarity of out-migration and population changes related to the Second World War made it possible to attempt analysis based on vast amounts of secondary data.

Across the Kattegat from Samso is Aarhus in Risskov and the psychiatric hospital here is part of the general psychiatric services provided for the inhabitants of Samso. As part of the Samso investigation a case-register was set up in Aarhus in 1958 and an early study based on it provided annual inception rates for depressive disorders (Nielsen et al 1961).

It was the advent of modern case-registers that contributed most significantly in recent times to the systematic studies of large-scale mental hospital systems. Studies of in-patient mental hospital usage alone had either given a very selective and invariably biased picture or were confined to isolated facts about specific illnesses in terms of their presentation. What was needed was to broaden this picture to include, at least, all forms of treatment, activity or usage of other community or health service based resources. It was understood that in the study of mental disorder, as in most chronic disorders, the recurrent nature of the illness, the multiplicity of contacts and the increasing number and variety of available resources, present particular problems for data collection (Gardner et al 1963). It was also important to achieve some continuity of observation with regard to individuals or groups of patients in terms of their clinical outcome, discharge, readmission etc. and to avoid duplicated counts. Psychiatric case registers achieved some of these objectives. As Richman (1970) points out, that although the

development and analysis of cumulative records of hospital care for individuals had been of interest for sometime, few systems were developed for continuing analysis of such data for defined areas prior to the introduction of case-registers. The availability of such sources of cumulative data led to further studies of the epidemiology of menal illness, including affective disorders.

The study by Neilsen et al (1961) relates to all entries into the case-register in the year 1958 and these included all the treated cases of psychiatric disorder in a population of over 160,000. There were 579 patients with a diagnosis of depression and using the population over the age of 15 as the denominator the annual prevalence of depression was calculated as 358/100,000. For women it was 503/100,000 whilst men had a much lower rate of 199/100,000. The majority of the patients were not admitted to a psychiatric hospital although psychoses constituted the main part of the material

A second report based on the Aarhus case-register was published by Nielsen (1976). The prevalence rates reported were based on a census taken on 1 January 1964, six years after the first case-register study from Samso (Nielsen 1961). It is not clear from the paper precisely what kind of prevalence rate is reported. The prevalence of mental illness (present or previous) on the census day is given, and this could mean all those individuals on the case-register on that day with a current episode of treated illness and/or previous illness. This is not synonymous with point or period prevalence, since it counts people who are not actively ill from the given condition on the census day or within a specified time period. Although not described as such, it is possible that the figures are

some indication of life-time treated prevalence or more accurately life-time treated prevalence reported to the local case-register. Therefore, it is best to consider these rates as something more than point prevalence (in its classical sense) but not quite life-time estimates. Prevalence of manic-depressive psychosis is 1.6/100 women and for both sexes together it is 1.3/100. The category of 'neurosis' shows the highest rate with 16.3 per cent for women and an overall rate of 11.3 per cent.

To compare with Sorensen & Stromgren's prevalence study of 1961, the case-register was used fifteen years later in 1976 to provide point prevalence rates (Nielsen & Nielson 1979). This study was also concerned with affective morbidity in Samso. The numerator for the prevalence rate was obtained by adding all those Samso patients aged 15 or above in treatment as out- patients in the community psychiatric clinic in Samso or as in- patients in the Aarhus psychiatric hospital on April 1, 1976. Total point prevalence for all depressions was found to be 0.95/100 and for endogenous depression 0.77/100. The female to male ratio was 2.5. Separate rates for women are not given. The authors, on comparing the treatment prevalence of 1976 with the total prevalence of 1960, comment that the point prevlance of 0.95/100 differs markedly from 3.9/100 found fifteen years earlier. However, the point prevalence rates for endogenous depression did not differ significantly with 0.57/100 in 1960 and 0.77 per cent in 1976. The differences are largely accountable by the fact that the more recent study was concerned with only treated cases while the 1961 study counted not only those in care but also 'cases' in the community.

Larrsson and Sjogren (1954) had found that in the West Swedish population, the point prevalence rate of hospitalised manic depressive psychosis was only 20 per cent of the total point prevalence for men and 16 per cent of that for women.

In 1963 in the U.S., one day prevalence of depressive disorder in Maryland calculated on the basis of information from a cumulative psychiatric case-register was given as 46/100,000 people (Silverman 1968). Psychoneurosis comprised almost one half of the total group of depressive reactions. The low overall rate compared to the Danish rates by Nielsen & Nielsen (1979) is most likely to be due to differences in diagnostic practices.

Two other case-registers were set up in the early sixties in addition to the one in Baltimore, U.S.A. and the Aarhus county register in Denmark. A case-register for North East Scotland (Aberdeen) was started in 1962 and the Camberwell register in London started enumeration in 1964. (Monroe County, New York had already set up a cumulative register in 1960). A study by Wing et al (1967) exploited data collected by these registers to provide prevalence rates in Baltimore, Aberdeen and London. One day prevalence of all psychiatric disorders showed much variation. While Aberdeen and Camberwell rates were similar (854/100,000 and 861/100,000 respectively) Baltimore rates (for whites only) was much higher at 1156/100,000. One year period prevalence appeared to be more comparable with Aberdeen having a rate of 1775, Camberwell 2051 and Baltimore 1998/100,000 people above age 15. Criterion difference in case and psychiatric status definition, differences in service utilization were thought to underlie these disparities. One year

period prevalence for affective disorder also showed variations. For manic-depressive psychosis (including functional psychoses other than schizophrenia) this was 225/100,000 in Aberdeen, 377/100,000 in Camberwell and 135/100,000 for Baltimore whites. Rate was even lower for blacks in Baltimore at only 59/100,000. Similarly, one year prevalence of reactive depression was lowest in Baltimore, 134/100,000 for whites and 80/100,000 for blacks, intermediate in Aberdeen, 338/100,000 and highest in Camberwell at 519/100,000. Apart from methodological differences in enumeration by the registers, the obvious explanation for this remarkable difference in prevalence rates is in the diagnostic criteria used by clinicians in the U.K. and the U.S.A. Although the paper could not deal with this specific issue in any detail on the basis of the available information, such a hypothesis is strengthened by the observation that the low rates for manic depressive psychosis and reactive depression categories in Baltimore are, in one sense, compensated by high prevalence rates for schizophrenia and addiction. Annual period prevalence rates for schizophrenia is highest among Baltimore blacks showing a rate of 722/100,000, followed by whites with 685/100,000 and much lower in Aberdeen and Camberwell (246 and 435/100,000).

The North-East Scotland case-register was also used by Baldwin (1971) to provide some answers about the extent of treated psychiatric morbidity. One day prevlance of all treated psychiatric illness on 31 December 1966 (two years after the census day used in Wing et al (1967)) was 682/100,000 population and for the City of Aberdeen (for comparison with the three areas study by Wing et al (1967)) it was higher at 780/100,000. Manic-depressive reaction showed a point prevalence rate of 75/100,000 for the catchment area as a whole.

Neurotic depression showed a higher rate of 80/100,000. The rates for neurotic depression in the rural areas were half those in Aberdeen City but manic depressive reaction showed no such variation. Both conditions were more prevalent in women than in men and the ratio was 2:1. The point prevalence rate in women was: manic depression 102/100,000 and neurotic depression 109/100,000.

These bald figures plucked out of this detailed study of the Aberdeen case-register do not do justice to the main objectives of the work. It was an attempt at a thorough description of treated morbidity in the region using the case-register as a source of reliable information for administrative and research purposes. The emphasis was clearly on providing answers to planning problems and on evaluating the service as a whole. Epidemiological considerations, in terms of aetiological research questions were not a major concern and this was perhaps indicative of the general use to which data on mental hospital activities were being put at the time.

Another study which used a psychiatric case-register as a research instrument was the Monroe County study by Pederson et al (1972). A cumulative psychiatric case register was set up in Monroe County, New York in January 1960 and earlier reports from the project were concerned primarily with enumerating total morbidity and related service and planning issues (see, Gardner et al 1963). Unlike the Aberdeen study, Pederson et al were exclusively concerned with psychotic depression. The authors started with a group of 11,639 individuals who were reported to the case-register during the years 1961 and 1962. Out of this they selected 568 individuals (5% of the total sample) with a clear diagnosis of primary psychotic depression.

The overall age-adjusted one year prevalence rate for psychotic depression was 70/100,000. Women had a higher rate (87/100,000) than men (53/100,000). The authors admit that these figures are higher than previously reported in American studies. They suggest that the rates are higher because the Monroe County register covers all psychiatric contacts including private practice referrals. There was good stability for this diagnostic group over time in that the majority of psychotic depressives returning to psychiatric care after their initial episode received the same diagnosis again. Apart from emphasising the recurrent nature of this illness, the study also established that the diagnosis of psychotic depression was more common amongst the older, white, married, female, middle-class group.

The Danish psychiatric case-register, based in Aarhus since 1966 has the unique advantage of linking individual psychiatric data to a Civil Person Registration (CPR), numbers identifying all citizens. The question of identification which has been a problem in other registers is solved by the use of CPR linkage. Dupont et al (1974) presented data from this register for years 1972-1973. For manic-depressive psychosis the annual admission rates for men and women respectively were 95/100,000 and 198/100,000. First admission rates were 21/100,000 for men and for women nearly double that, 40/100,000 per year. For first admissions, 6 per cent of diagnoses for men were manic-depressive psychoses and over 10 per cent among women had the same condition.

In a detailed comparison of Camberwell (London) and Salford (Manchester) case-registers, Wing & Fryers (1976) report various prevalence rates. All in-patients, out-patients, day- patients and

patients residing in hostels as well as those in contact with social workers and defined as having mental health problems are enumerated. One day prevalence for hospital treated depressions on 31 December 1974 was reported as: in Camberwell, 298/100,000 (men 161 and women 422/100,000), in Salford 105/100,000 (men 49 and women 157/100,000). The Camberwell rate is almost three times higher than the prevalence rate in Salford. The overall prevalence rates (for all conditions) in the two areas are markedly different, 769/100,000 in Camberwell compared to 538/100,000. The male:female ratio is 1.6 in Camberwell while in Salford it is 1.2. However, the ratio is greater for depression and Salford shows a greater female predominance (3.2) while the Camberwell ratio is 2.6. Since diagnostic differences between London and Manchester may not be of any great significance, and the factors surrounding treatment inception likely to be the same, the discrepancy in rates between the two case- registers is most likely to be due to the more extensive treatment provisions available in London. Apart from schizophrenia and personality disorder, Camberwell rates are higher than Salford.
Notwithstanding the clear advantages of case-register based studies, a number of investigators have continued to study hospital admissions within a limited period of time in order to estimate the extent of affective morbidity. Worthy of mention in this context are three studies, one from Europe, one from the U.S. and one from Australia.

The study by Kastrup et al (1976) shared the same purpose of most Scandinavian epidemiological investigations, namely the description of the psychiatric services available to, and utilized by, a geographically defined population. They studied all the patients above the age of 15 years from the Randers area in the North West of

Denmark drawn from a population of 82,337. Annual period prevalence rate of out-patients referred for the fiscal year 1970-71 for manic-depressive psychosis was 148/100,000 for women and 41/100,000 for men. This was based on out-patient attendance at the local general hospital. Kastrup and her colleagues also enumerated the out-patients from Randers attending the psychiatric hospital at Aarhus. One year period prevalence rates for this group were 79/100,000 for women and 46/100,000 for men. Total out-patient psychiatric morbidity due to affective disorders expressed as annual prevalence rates for men and women are 87/100,000 and 227/100,000 respectively.

A one day point prevalence study of all in-patients and a one week prevalence study of all out-patients was conducted by Burvill and Finlay-Jones (1977) in Perth, Western Australia. Only treated morbidity was identified. All patients attending any of the three psychiatric services, namely general hospital psychiatric units, state mental health services and private psychiatric facilities, were enumerated on the census day in July 1971. 64.2 per cent of all in-patients were either in hospital or were 'on the books' for more than 12 months. Total point prevalence for in-patients was 129.7/100,000 population (not age adjusted). Males had a higher rate than females. One week period prevalence for out-patient care was 125/100,000 population with female rate double (168.6) that of males (80.6). Unfortunately the paper does not give disease-specific prevalence rates. However, the paper indicates that among women out-patients 63 per cent in the mental health service clinics, 81 per cent of general hospital clinics and 78 per cent with private psychiatrists had a diagnosis of "affective psychosis, neurosis or personality disorder."

A more recent study from Rockland County, New York (Goodman et al 1983) was concerned with the relationship between socio-economic class and the prevalence of three mental illnesses which most frequently required psychiatric in-patient care. The study cohort consisted of all residents from a defined population base who were in-patients at either of the two local, public mental hospitals on August 1, 1975 plus all patients subsequently admitted over the next twelve months. Public psychiatric facilities of the county account for 92 per cent of all psychiatric beds in the area. The authors provide a one year prevalence rate for affective disorders which is 79/100,000. Prevalence of the condition was twice the rate in "lower-classes" compared to "middle-class", diagnostic classification by DSM-II, although a 10 per cent random sample of case records were used in a reliability exercise using DSM-III and the agreement was adequate.

1(b). Hospital based studies of the epidemiology of affective disorder - Incidence

Incidence rate of a disease condition is a direct estimate of the probability, or risk of developing that condition during a specific period of time. In other words, it is the number of new cases, expressed as a rate occurring within a given time. When an epidemiologist compares the development of disease in different population groups or attempts to determine if a relationship exists between a possible aetiological factor and a disease, he generally prefers to use incidence rates (Lilienfeld & Lilienfeld, 1980).

Estimation of incidence rates in relation to a psychiatric condition such as affective disorder is fraught with problems. These are to do with the chronicity and cyclical or recurrent nature of the illness and the usual problems with the measurement or diagnosis of the disease. General population surveys, largely because of the limited time period that they are concerned with, tend to pick up chronic cases and this is especially true of cross-sectional studies. Secondly, because of the recurrent nature of the illness, separate estimates of illness onset (first-attack) and episode onset are difficult to achieve given the limited time base available for observation. Transient episodes of depression are likely to be missed and are in any case unusual in hospital settings. However, if it can be assumed that all onsets of illness sooner or later come to psychiatric attention and if the ratio of first admissions to illness onsets is constant across time and place, then changes in hospital first admission rates (or out-patient inceptions rates) are a reliable estimate of changes in incidence rates. It is not surprising that most of what we know about the inception of affective disorders is based on hospital statistics.

The studies mentioned here span the same period as those cited under hospital prevalence studies. In fact, many of the studies attempted both inception and prevalence rates. Epidemiological work concerned with measures of risk other than incidence (e.g. morbid risk, expectation of disorder, etc.) are not considered here.

Silverman (1968) in her review cites five major studies of first admission rates. First of the these is the seminal work of Faris & Dunham (1939) concerned with the ecological distribution of first

admission to mental hospital in Chicago in the 1920s and early thirties. Apart from emphasising the relationship between social disorganisation and mental illness the authors, in the course of their analysis, provide some indication of the inception rate for affective disorders. Based on 2,311 first admissions for manic-depressive psychosis over a 13 year period Faris & Dunham calculated the annual incidence rate for the population as 7.33/100,000. The female rate was higher, at 9.5, compared to 5.2/100,000 for men (see Table 57, p. 205, Faris & Dunham (1939)). The crux of their main finding of course was that the geographical distribution of manic-depressive psychoses, based on first admission rates, followed a random pattern while schizophrenic illnesses tended to concentrate in socially disorganised areas.

Malzberg (1955) studied first admissions to all the public and private psychiatric hospitals in New York State during the three year period 1949-1951. He found that first admission rate for manic depressive psychosis was almost exactly the same as what Faris & Dunham (1938) had reported from Chicago, namely 7/100,000 per year. In addition however, he calculated a separate rate for 'involutional melancholia' which was 2.3/100,000 per year.

Hare's study in Bristol (Hare 1956) looked at all first admissions to mental hospital facilities during a five year period, 1949-1953. The study was, "to test, in an English city, the observations of Faris and Dunham on the urban distribution of mental disorder ...". During the study period there were 1,052 first admissions for manic depressive psychosis, including "involutional depression, atypical depression, depression in the senium and depression other and

unspecified". Using the total population of Bristol in 1951 as half a million it is possible to calculate a crude annual inception rate for this diagnostic category which is 42.1/100,000. This of course is considerably higher than the American rates reported by Faris & Dunham and Malzberg in their studies. The possibility that differences in diagnostic practices between the two countries contributed to such disagreement must be considered. For example, the average annual inception rates for all cases in Chicago and Bristol do not vary by much, 110.6 and 132.2 per 100,000 respectively. If schizophrenia and manic depressive psychosis are taken together they account for 46% of Bristol cases and 37% of the Chicago cases. But the Bristol manic depressive psychosis rate is almost six times that in Chicago while the schizophrenia incidence there is only just over half of the American rate. A five-fold discrepancy between London and New York in the inception rate for depression was also subsequently discussed by Rawnsley (1968).

Silverman (1968) also refers to a study by Jaco (1960) based on all first admission for 'psychosis' in all psychiatric hospitals in Texas during 1951 and 1952 which showed that the inception rate for manic depressive psychosis (including involutional psychosis) was 18/100,000 per year. On the basis of tabulations provided by the Biometrics Unit of the National Institute of Mental Health, the annual inception rate for manic depressive psychosis in the State of Maryland for years 1962-1963 was 8/100,000. Again, it is striking that the American rates are consistently lower than Hare's findings in Bristol and, as will be shown below, results of other studies in the U.K.

The two other British studies of the period were conducted by Shapherd (1957) and Norris (1959).

Shepherd compared patients admitted to a county mental hospital in two triennia (1931-1933 and 1945-1947). There was a striking increase in first admission rates for affective disorder, females were twice more likely than males to be admitted, and period of hospital stay in the 40s was much shorter than it was before the War. Shepherd reported that first admission rates for women in 1931-33 was 9.6/100,000 and in 1945-47 it was 12.6/100,000.

Shepherd's analysis was concerned primarily with understanding the secular trends in hospital admissions and he of course confirmed the influence of changes in administrative policy, new methods of treatment and other factors upon the pattern of admission. Questions were not specifically concerned with aetiological issues. Close on the heels of this major study came the work of Norris (1959) conducted at the Institute of Psychiatry in London. This was an account of major mental illness and was based on an analysis of admissions from 1947 to 1949 to three large mental hospitals and two observation wards in London. She also noted, like Shepherd, an increase in the admission rates but suggested that this was a product of improvement in the services and did not necessarily reflect an increase in incidence. First admission rate for affective disorders among women for the three years (1947-49) was estimated as 19.6/100,00 (compared to 12.6 in Buckinghamshire three years previously) and female to male ratio was 2:1.

Mezey & Evans (1971) in their study were primarily concerned with

examining the complementary roles of out-patient and in-patient activities in the operation of psychiatric services in a London Borough. They compared 60 patients admitted to the wards from the out-patient clinic with the 258 out-patients from whom they had been selected and found that women were more likely to be admitted to hospitals, that increasing age was associated with increasing risk for hospital admission but with a gradual fall of out-patient referral rate. In the out-patients category certain groups were over-represented, such as single people and lower social classes. Apart from descriptions of hospital patients they provided prevalence estimates for specific diagnostic categories. Separate out-patient and in-patient referral rates were given. Rates were calculated on the basis of referrals to psychiatric services in a period of 12 months from a pre-defined population base of 91,956. Inception rate (with no distinction between "new" cases and re-referrals from outside the study period) was 256/100,000 for admission to the wards and 280/100,000 for out-patient referral. Both rates were higher for women with the age-specific rates showing a peak after 65 years for women admitted to hospital and 15 to 44 age group for out-patient referral. Diagnosis specific inception rates, calculated on the basis of numbers given in the paper, show that for affective disorder the in-patient annual inception rate is 92.4/100,000 (all persons) and out-patient annual inception rate of 131.6/100,000.

The major problem with the study, in terms of estimating inception rates, is that no distinction between new inceptions and re-referrals was made. Whether chronic patients who were re-referred to the hospital were excluded from the figures given is unclear and the results therefore are likely to be an overestimate of hospital based

incidence rates. However, this is one of the few studies that have looked at out-patient and in-patient activities separately and the comparisons between the group are interesting.

Innes and Sharp (1962) provided inception rates for all psychiatric disorders in the North-East Scotland based on first referrals (defined as all admissions except those who had psychiatric consultation during the preceding 12 months) between 1 March 1960 and 28 February 1961. Annual new referral rate for those above age 15 was 566/100,000 per year with women showing an inception rate of 623/100,000. The study does not give details of inception rate by diagnosis but is of interest here because it can be compared to the two English studies mentioned earlier and this will allow an estimation of the increase in the rates consequent upon considering all new referrals as against only first admission to hospital. The inception rate into psychiatric care for women of 623/100,000 per year in North East Scotland is 8.5 times higher than the first admission rates for women in the study by Norris (1959) and nearly fifteen times the rate obtained by Shepherd (1957) in his Buckinghamshire study of 1945-1947 admissions. Bahn and colleagues (1961) studying out-patient new referrals had obtained inception rates of 473/100,000 for adults in Baltimore and this compares with 744/100,000 found for all adults in Aberdeen.

Using similar definitions to Innes & Sharp (1962) of 'new cases' Baldwin in his case-register based study (Baldwin 1971) showed that inception rate into psychiatric care in 1966 in North East Scotland was 441/100,000 (396 for men and 483 for women). He reports the annual incidence rate for manic depressive reaction as 44/100,000 for

women and for men much lower than that, 17/100,000. The sex difference is equallly marked for neurotic depression with women having an annual incidence rate of 150/100,000 and men 69/100,000.

Adelstein et al (1968) used the data from the Salford psychiatric case register to calculate inception rates for specific psychiatric disorder. The authors took as the unit of their observation all episodes of illness in which a person entered the care of a psychiatric agency for the first time in his life." The term episode included "all episodes whether first or recurrent". The period of observation was 1954 to 1963. In addition to the Salford register, all individuals admitted to public and private institutions in England and Wales were included if those patients had an address in Salford. The population at risk was considered as stationary in the central year of the study and this coincided with the 1961 census. This was the Salford population and the average annual rates were derived from the rates of the whole five year period.

The results of this study showed that the average annual inception rate per 100,000 population in Salford for all psychiatric disorders for men was 296 and for women 360. For both sexes, rates of inception showed a peak at 30-39 years, a decline in the middle years (40-59) and a steady rise after 60 years to a steep ascent in old age. Inception rate for depressive psychosis was, for men 65/100,000 and for women almost double that at 123/100,000 and this difference was present at all ages up to 70. Age specific inception rates showed a peak for depressive psychosis in women in 30-39 years, followed by a levelling of the rates and a decline between 40-69 years. In twenty years age bands, this was 20-39 years 178/100,000,

40-59 years 161/100,000 and over 60 years 110/100,000). It is in the middle ages (40-54) that depressive psychosis makes an outstanding contribution to the total illness rates. The study also considered the relationship between marital status, social class and inception rates. Each diagnostic category made distinctive contributions to the variations by marital status. Among women, the married had lower rates than single and widowed in all diagnostic categories except in depressive psychosis, where widows had the highest rate (single 118/100,000, married 152/100,000 and widows 210/100,000). Variation in rates by social class were studied only among men (because of the problems in allocating women to social classes in a uniform way). In social class I (according to the Registrar General classification) there were no cases of depressive psychosis and the rate in class II (44/100,000) was low compared with classes III, IV and V (rates, 63, 60 and 62/100,000 respectively) although the rate for depressive psychosis in class II was high in relation to other diagnostic categories.

This study is valuable and important not just because of the care and thoroughness with which it was undertaken, but also because of the determinants of illness inceptions it pointed to and the specification of hypotheses (for example, age of onset) it achieved. Also, it is a very good example of the problems and limitations inherent in an epidemiological enquiry into psychiatric disorders, based on secondary data. The authors acknowledge this and, in particular, discuss the problems raised by the use of inception rates. They point out that all first episodes during the period of study may not have contributed to inceptions and in some cases the initial episodes occurred prior to the establishment of the

register. It also does not take into account factors related to migration and death. The confounding effects of multiple diagnosis in the same individual occurring at different periods of time could not be dealt with other than by taking into account only the first diagnosis. The authors also caution against ready interpretation of the data, especially in terms of the population at large. Since inception into psychiatric care is a product of social and individual processes, the data could not be considered as representing all the incidence in all individuals in the population.

The Salford register was compared with the Camberwell register over a five year period by Wing & Fryers (1976) and first-ever admision rates are available from this source. Mean annual first-ever admission rate for all diagnostic categories taken together was 148.2/100,000 in Camberwell and 116/100,000 in Salford for the years 1969-1973. The 1969-1973 Salford rate is not only lower than the Camberwell rate but is also less than the inception rate reported by Adelstein et al (1968) for the five years (1959-1963) a decade earlier (330 per 100,000). Apart from the differences in the way such patients are identified, the disparity can be accounted for by the facts that

(i) the Adelstein study took into consideration all inceptions into the case-register while the Wing & Fryers comparison was concerned with only hospital admissions, and

(ii) there had been a decline in the first admission rates to psychiatric hospitals in Britain which did not level out until the mid-seventies.

Also, the longer a case-register is maintained, the more likely it is that the information about previous episodes be known. The point (i) is obvious if we compare Adelstein et al's (1968) study with mean one year inception into the case register in Salford for 1969-1973 (which is 496/100,000). If those who had previous contact outside the register and those with no information are taken out, this rate falls to 238/100,000. Using this definition of inception, the mean annual inception for all depressions is 124/100,000, with a female to male ratio of 2:1 (164 and 80/100,000). In Camberwell the rate is 166/100,000 with women having an annual inception rate of 213 and men 115/100,000.

The Samso-Aarhus studies have also made significant contributions to our knowledge of inception rates into psychiatric treatment. Juel Nielsen et al (1961) used the case-register in its early days to estimate the incidence of treated depression. In 1958 roughly 3 per cent of the adult popultion of the County of Aarhus were entered in the register. Patients with a diagnosis of depression (endogenous depression as part of manic depressive psychosis, psychogenic depression and depressive neurosis) amounted to a total of 579 (425 women and 154 men). This was after excluding all those who were already enumerated (in care) in the register at the start of the year. The authors further excluded another 121 patients who had previously been in contact with psychiatric departments. For the former category of all inceptions (indicative of episode inception) into the case-register (n = 579) the annual inception rate was 358/100,000 with 503/100,000 for women and 199/100,000 for men. If only those with no previous psychiatric contact are considered (perhaps more reflective of illness inception) the annual inception

rate can be calculated as 221/100,000. One can also calculate inception rates according to marital status and diagnostic groups within depression on the basis of the data presented in this paper. Taking 503/100,000 as the annual incidence figure (inception rate into case-register) for women, it can be compared to variations that occur according to marital status. The separated and divorced group have the highest rate (951/100,000) followed by the married (539/100,000), single 416/100,000 and the lowest rate is for widows (301/100,000). In Adelstein et al's study (1968) in Salford widows had the highest rate for depressive psychosis followed by the single and the lowest rate was among the married women. In the same study widows had the lowest rate for 'psychoneurosis' category, less than one-third the rate of single women. The results from Aarhus thus might be due to the inclusion of the broader category of depression, apart from other methodological differences between the two studies. In Aarhus depressive neurosis had the highest inception rate (111/100,000) followed by psychogenic depression (84/100,000) and endogenous depression (68/100,000).

A further report from Aarhus was published in 1975 (Weeke et al 1975) and this was also concerned with depression, but this time on the basis of 5 years data (1960 to 1964) from the case-register. All those who achieved a diagnosis according to ICD.8 manic-depressive psychosis (ICD code 296) or reactive depressive psychosis (ICD code 298.0) or depressive neurosis (ICD code 300.4) and were entered in the register for the first time during the 5 years formed the inception group. Average annual inception rate for women was 328/100,000 and for men 130/100,000 (both, incidentally lower than Juel Nielsen et al (1961) reported). The female/male ratio was

highest for reactive depression (4.2) and lowest for manic-depressive psychosis (1.9). The three diagnostic categories also showed characteristic variation according to age. In manic-depressive psychosis there was a bimodal pattern for women (or as Adelstein et al (1968) called it 'the roller coaster' curve of depressive psychosis) with the first peak in the age group 45-49 years and the second hump in the 75-79 age group. In the Salford study women showed a first peak in the 30-39 age group. For psychogenic depression in the Aarhus study there was a skewed distribution of age specific incidence rates with the 25-30 age group showing the highest incidence. The shape of the distribution curve was the same for depressive neurosis but the highest incidence was in the slightly older group of women, i.e. age 35-39.

After corrections for age, the authors also found that in the manic depressive group there were more unmarried and fewer married women than expected and in the depressive neurosis category there were more widowed, separated and divorced women and fewer married and single women than expected.

The third report from the same group that is of relevance here is the study by Nielsen & Nielsen (1979). This paper provided incidence rates for both Samso island and compared it with Aarhus county, as reported in the previous study by Weeke et al (1975). In Samso for all depressive disorders the annual inception rate was 519/100,000 in 1964 and in 1974 this was 479/100,000. The 1964 rate in Samso was more than double found in Aarhus in the same year, namely 204/100,000. This compared with 79/100,000 as the first admission rate to all Danish psychiatric hospitals. The annual inception rates

for sub-categories of depression in Samso in 1974 were: manic depressive psychosis 303/100,000, psychogenic depressions 86/100,000 and neurotic depression 50/100,000. The higher frequency of disorders in Samso was attributed to the "higher referral rate of mild and atypical endogenous depressions". Based on Danish psychiatric hospital admission rates, along with their own findings, the authors contend that the number of persons with endogenous and psychogenic depressions in need of treatment is considerably higher than that revealed by psychiatric hospital statistics. A study based on a Danish psychiatric case-register (Dupont et al 1977) reported that the first admission rates to all hosptials produced an annual incidence rate for manic-depressive psychosis for women 40/100,000 and for men 21/100,000, which was much lower than the rates reported by Nielsen & Nielsen (1979) who sought to enumerate cases from settings beyond in-ptient care.

First admission rates for affective disorder were also studied by Spicer et al (1973) on the basis of a nationwide sample in England and Wales. They were primarily addressing themselves to the question of whether depressive illnesses constituted more than one condition that could be distinguished on the basis of age of first onset. By using information from the Mental Health Enquiry cards for first-ever admissions during the years 1965 and 1966 they calculated age-specific incidence rates for all those with a diagnosis of affective illness. Diagnostic categories used were a combination of ICD.7 diagnoses and that followed by the Department of Health and Social Security. These were appropriately collapsed to give three broad categories of diagnosis: "psychotic depression:, "neurotic depression" and "depression not otherwise specified". Taking all

these categories together and based on the total number of first admissions for such a diagnosis of depression in 2 years an incidence rate can be calculated and on annualising it the inception rate obtained is 99.5/100,000 with men showing 71.5/100,000 and for women 126/100,000 per year. The age-specific incidence rate shows that for both men and women there is an increase in psychotic depression incidence with age. For women it peaks at the 45-50 age group followed by another peak at the 65-70 age group. Neurotic depression on the other hand showed an early peak at the 20-25 age group followed by a steady decline.

Another English study concerned with incidence of treated mental illness was conducted in Chichester and Salisbury by Grad de Alarcon et al (1975). The study was in two parts. In the first, annual referral rates to two psychiatric services are described.

The second part is concerned with evaluation of the community psychiatric services in Chichester. All data relating to referral to the services were collected for both areas for a one year period. A new case was defined as any referral who had not been seen by the service psychiatrist in the previous six months. Inception rates based on all new referrals were 680/100,000 population over age 15 per year for Chichester and 537/100,000 per year for Salisbury. For depressions (neurotic, endogenous and manic depressive psychosis) the rates were 350/100,000 for women and 246/100,000 for men per year. Manic depressive psychosis (including endogenous depression) had annual inception rates of 265 and 150 per 100,000 (for women and men respectively) while depressive neurosis inception rates in the two sexes were 96 and 85 per 100,000 per year. Depressive psychoses were

consistently more common in women than in men at all ages, the peak for women was at 55-64 years with another peak at 25-44 years. Single women after the age of 45 had a significantly greater risk of referral for depressive psychoses. The condition was more common in young married women (before age 45). The peak for neurotic depression was 25-34 years with the rate levelling off after that until 45 years, followed by a dramatic drop. This diagnosis was also markedly associated with the married state in women.

The total first referral rate in this study was higher than inception rates reported by Hagnell (1966) in Sweden, Hollingshead & Redlich (1958) in New Haven and Adelstein et al (1968) in Salford, but closer to that reported in North-East Scotland (Innes & Sharpe 1962; Baldwin 1971).

Some of the findings from this English study were similar to those obtained by Pederson et al (1972) in their case-register based study from Monroe County, New York. On the basis of all new entries (with no previous history of psychiatric care) receiving a primary diagnosis of psychotic depression they calculated overall age adjusted incidence rate for the two year study period as 33/100,000/year; for men, this rate was 27/100,000/year and for women 37/100,000/year. These are higher than previously reported in American studies (Faris & Dunham 1938, Malzberg 1955, NIMH 1967) but lower than Salford rates(Adelstein et al 1968) and Chichester-Salisbury rates (Grade Alarcon et al 1975).

Finally, a review of studies concerned with treated morbidity must mention national statistics. Even allowing for the fact that such

national enumeration is prone to errors of various kinds, some trends relating to morbidity patterns could be specified. Brooke (1959) has discussed the advantages, disadvantages and relevance of national statistics in the epidemiology of mental illness.

Some relevant findings on the basis of national statistics are given. It is important to bear in mind that there are major differences in data collection and handling between countries, that first admission rate as a proportion of all admissions had been falling since the late fifties and that classification of depressive disorders has followed the changes in the International Classification of Diseases.

Norris (1959) has attempted to specify the variations consequent upon using national statistics and quotes General Registry Office figures for point prevalence rates (31 December 1949) for manic depressive psychosis for England and Wales to emphasise this. For men and women aged 16 or over these were 68.7/100,000 and 115.7/100,000 respectively. She compares it with similar rates for New York on the same day as 39/100,000 (for both men and women together) which was less than half for England and Wales (92/100,000). She also suggested on the basis of total prevalence rate provided by Larsson and Sjogren (1954) in the West Swedish population that the actual point prevalence rate for England and Wales might be as much as 500/100,000 population. The disparity between New York and England and Wales rates was also emphasised by Rawnsley (1968). He quoted the Registrar General figures (England and Wales) for first admissions for all affective disorders in 1952 as 16.1/100,000 for men and 26.0/100,000 for women which was considerably higher than New York

figures of 2.2/100,000 and 3.8/100,000 for men and women respectively in 1949. Differences in diagnostic practices were thought to be the most valid explanation of such divergence in rates. Rawnsley (1968) also provides first admision rates for affective disorder for England and Wales for 1960 and the rates were considerably higher (28.8 for men and 49.3 for women per 100,000 per year) than eight years previously. Brooke (1959) had already indicated that the first admission rates were going up and this was obvious from 1956 figures for the home population for manic depressive reaction alone (24 and 36/100,000 for men and women respectively) which were higher than first admission rates for all affective disorders in 1952 quoted by Rawnsley (1968).

Next data from the National Statistics are considered in some detail for Scotland. Firstly, it is worth noting that the increase in first admission rates which was indicated by earlier studies has gradualy levelled off and began to decline since the early sixties. Scottish rates are still higher than rates for England and Wales and the decline in the rates in England has been slightly steeper.

The proportion of first admissions as a percentage of all admissions has also been declining. This is shown for a ten-year period until 1981 for women in Scotland in Figure 3.1.

It is by all means clear that the decline in first admission rates to psychiatric hospitals in Scotland has affected all diagnostic categories. Considering only affective disorders and calculating first admission rates for this diagnostic category for women only it becomes apparent that the decline in first admission rates is not a

feature of all diagnostic classes. Affective disorders, as the main diagnosis are sub-divided into four diagnostic groups. Group 1 refers to manic disorders (ICD-9 codes 296.Ø, 296.2 and 298.1). Group 2 is depressive psychosis (ICD-9 codes 296.1, 296.3 and 298.Ø), Group 3 is manic depressive psychosis, mixed or unspecified (ICD-9) codes 296.4, 296.5, 296.6, 296.8 and 296.9) and finally Group 4 refers to neurotic depressions and depression not otherwise specified (ICD-9 codes 3ØØ.4, 3Ø9.Ø, 3Ø9.1, 311.Ø). First admission rates for these conditions for women are shown over a period of 12 years in Figure 3.2.

Consideration of secular trends in hospital admissions is relevant in the context of this study because an attempt is made here to calculate rates based on hospital referrals of affective disorder and an understanding of secular changes in the first admission rates for women in the recent past will help us place locally obtained results of hospital activity along with national trends. The affective disorder category (along with other depressive disorders) from ICD-9 are sub-divided into arbitrary groups as mentioned above to achieve some uniformity in diagnostic classes and to assess the relative contribution of each to the total first admission rates.

Figure 3.1:

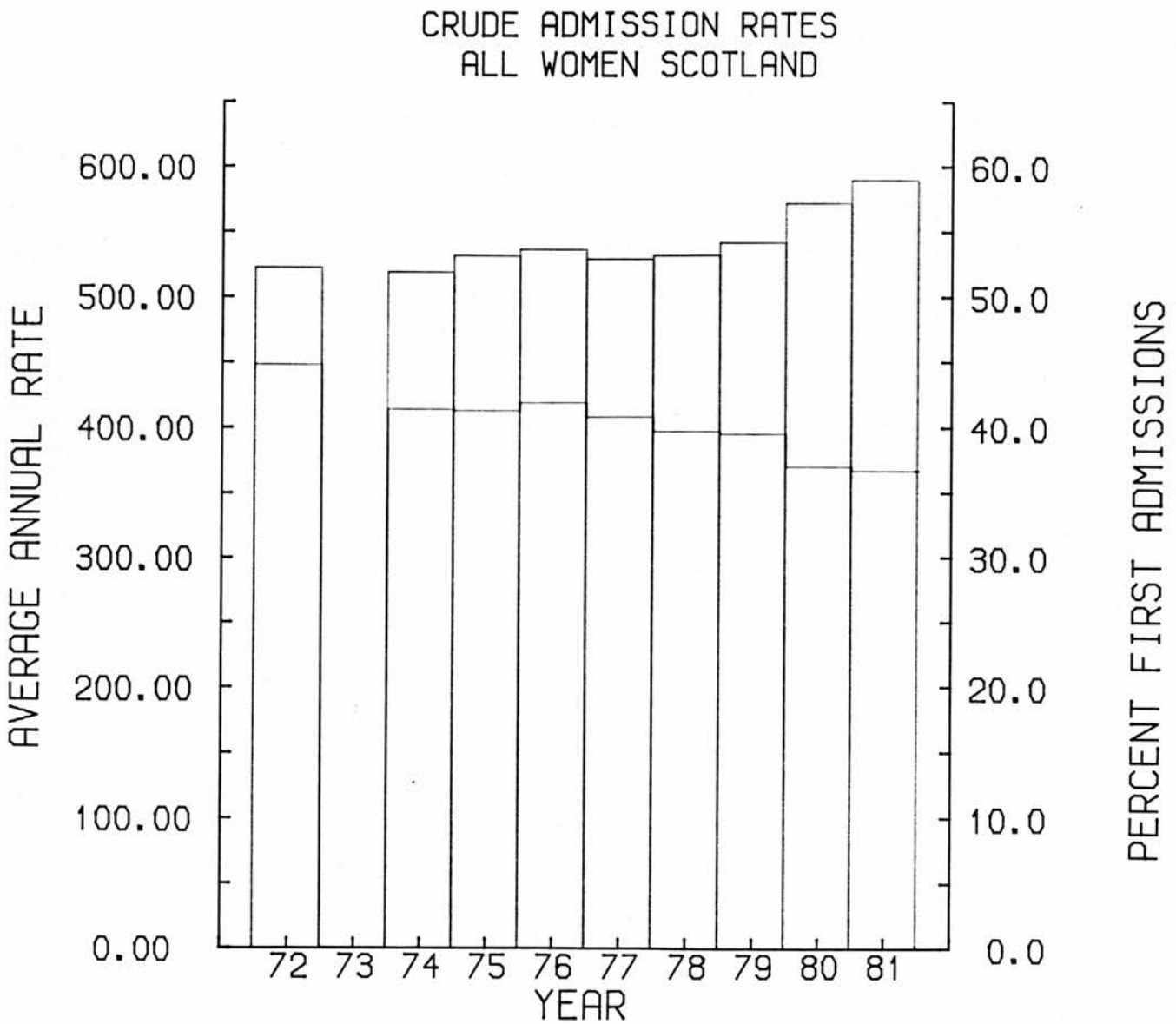
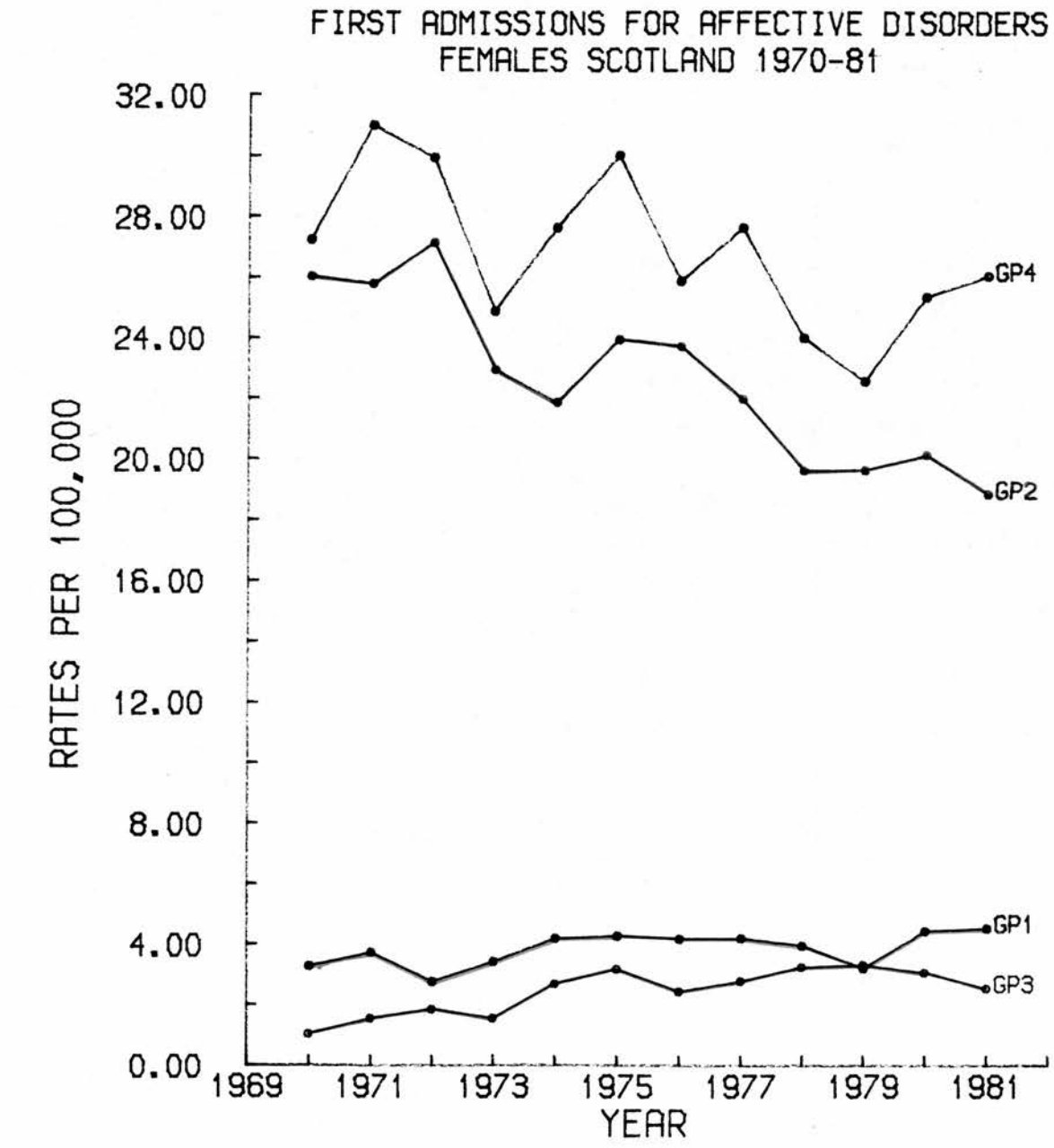

CRUDE ADMISSION RATES
ALL WOMEN SCOTLAND
AVERAGE ANNUAL RATE
600.00
500.00
400.00
300.00
200.00
100.00
0.00
PERCENT FIRST ADMISSIONS
60.0
50.0
40.0
30.0
20.0
10.0
0.0
72 73 74 75 76 77 78 79 80 81
YEAR

Figure 3.2:


FIRST ADMISSIONS FOR AFFECTIVE DISORDERS
FEMALES SCOTLAND 1970-81
RATES PER 100,000
32.00
28.00
24.00
20.00
16.00
12.00
8.00
4.00
0.00
1969
1971
1973
1975
1977
1979
1981
YEAR
GP4
GP2
GP1
GP3

It is immediately obvious that the decline in first admission rates is not uniform across all affective disorder categories. Inception rate for manic episodes has remained fairly constant while psychotic depression has shown a decline from 26.0/100/000 per year in 1970 to 18.8/100,000 in 1981. Rates for neurotic depression and depression not otherwise specified have fluctuated a great deal but the 1970 rate of 27/100,000 is close to the 1981 rate of 26/100,000.

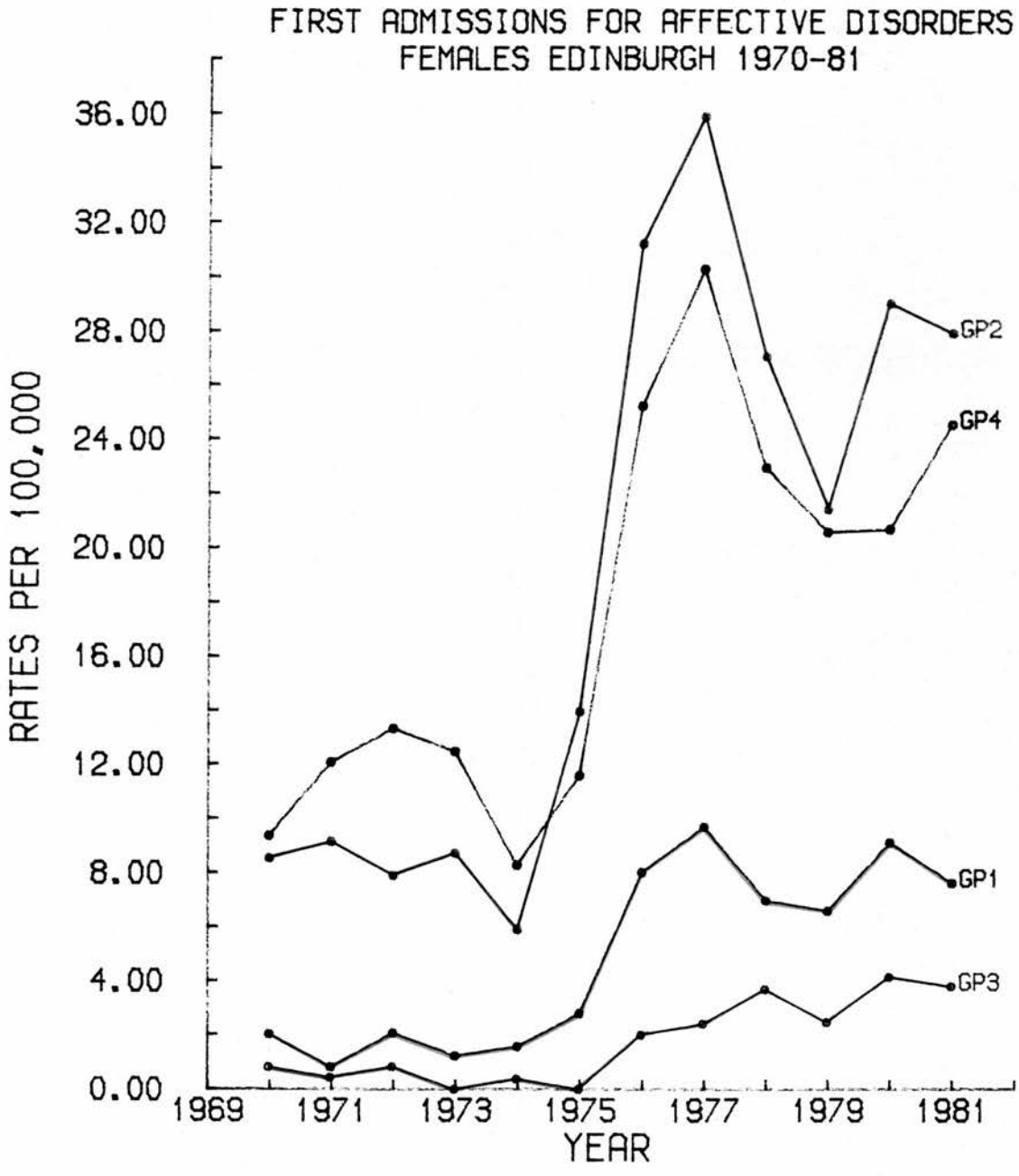
The trends shown in national statistics are not inevitably reflected in inception rates in local samples. There is no reason to suppose otherwise, given the greater impact of changes in administrative policies and treatment priorities in local population rates. It is however germane to discussion here because

(1) most of the studies reviewed here refer to local populations, and
(2) this thesis is concerned with the epidemiology of affective disorder among women in Edinburgh.

Therefore, for purposes of comparison the first admission rates for affective disorder in Edinburgh are represented in Figure 3.3.

All categories of affective disorder show an <u>increase</u> in first admission rates since the mid-seventies in Edinburgh. Also, the first admission rates in Edinburgh are higher than national rates.

Figure 3.3:


FIRST ADMISSIONS FOR AFFECTIVE DISORDERS
FEMALES EDINBURGH 1970-81
RATES PER 100,000
36.00
32.00
28.00
24.00
20.00
16.00
12.00
8.00
4.00
0.00
1969
1971
1973
1975
1977
1979
1981
YEAR
GP2
GP4
GP1
GP3

Age-specific first admission rates for Scotland (Figure 3.4) and for Edinburgh (Figure 3.5) however are more similar, although the Edinburgh rates for all categories remain higher than for Scotland.

Neurotic depressions and depressions not otherwise specified show a peak in early adulthood while depressive psychosis inception rates are at their highest in later life with a gradual decline in old age.

2. Epidemiology of affective disorders : General Population Studies

The attractions and the advantages of general population surveys to psychiatric epidemiologists have already been discussed in Chapter 2. In the study of the epidemiology of affective disorders there undoubtedly has been a shift in this direction and most of the recent crop of studies have been exclusively concerned with disorders identified in the general population. The acceptance of the existence of a pool of morbidity outside treatment settings (and often unlikely to reach any stage of treatment facilities) and the recognition that those who come to treatment are likely to be unrepresentative of the larger group of people suffering from the illness, both in clinical presentation and in terms of determinants of their illness, prompted this move away from hospitals and clinics to choose a wider sampling frame. The momentum for such a move into the general population setting was given additional force by the advent of more reliable methods of case-finding and case-definition. This is apparent in the change that has taken place in the methodology of general population surveys since the early sixties.

Figure 3.4:

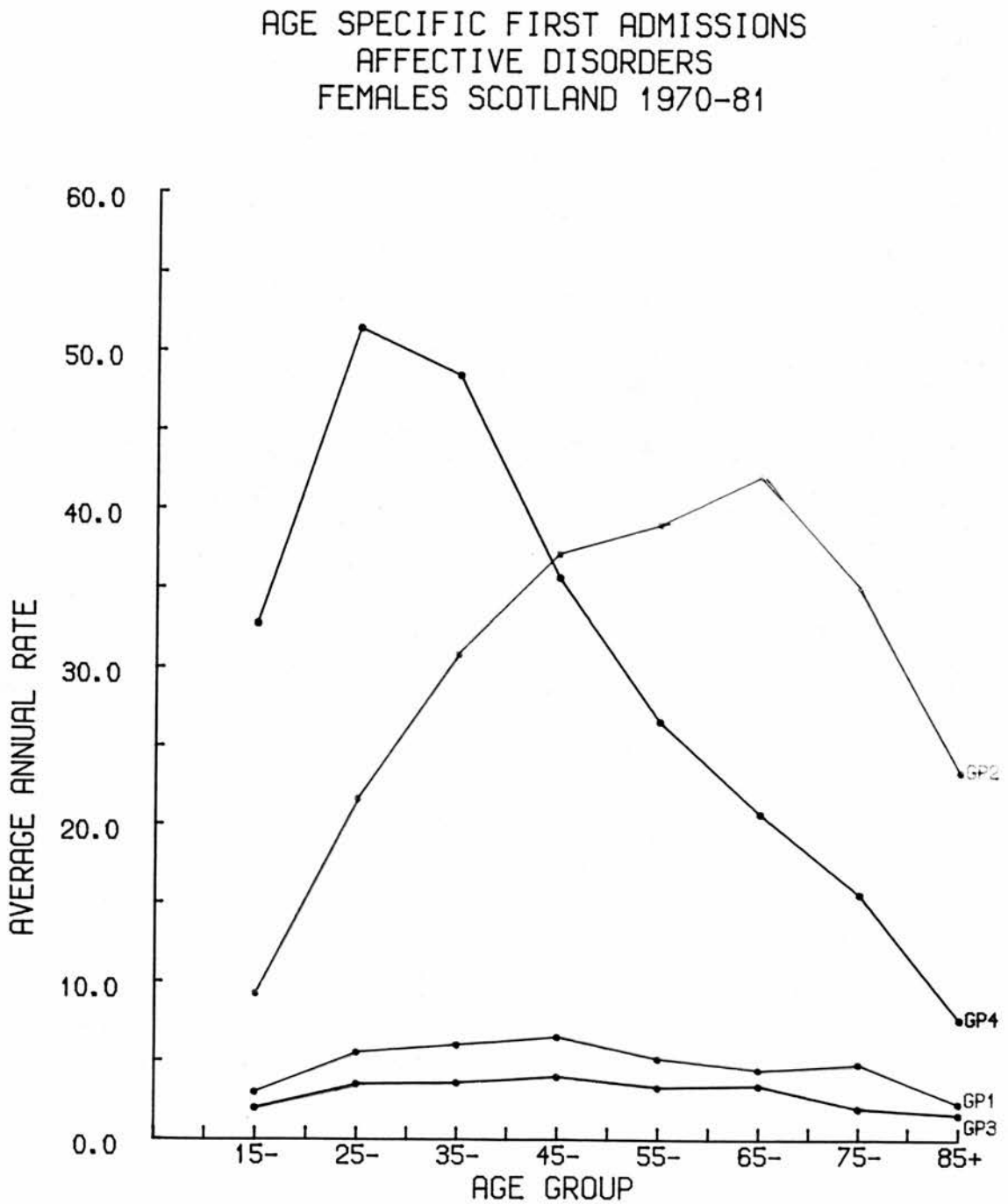
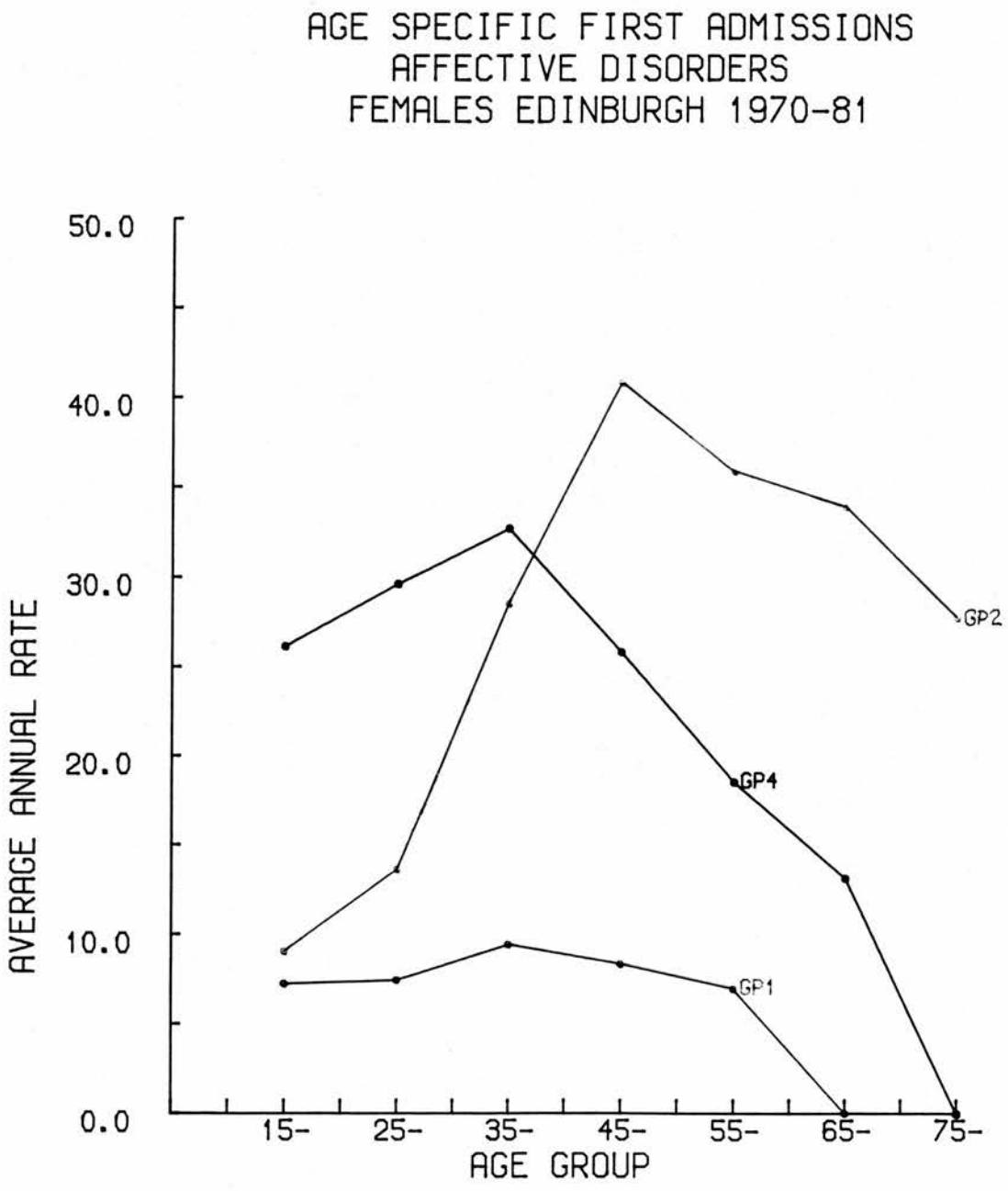

AGE SPECIFIC FIRST ADMISSIONS
AFFECTIVE DISORDERS
FEMALES SCOTLAND 1970-81
AVERAGE ANNUAL RATE
60.0
50.0
40.0
30.0
20.0
10.0
0.0
15-
25-
35-
45-
55-
65-
75-
85+
AGE GROUP
GP2
GP4
GP1
GP3

Figure 3.5:


AGE SPECIFIC FIRST ADMISSIONS
AFFECTIVE DISORDERS
FEMALES EDINBURGH 1970-81
AVERAGE ANNUAL RATE
50.0
40.0
30.0
20.0
10.0
0.0
GP2
GP4
GP1
15-
25-
35-
45-
55-
65-
75-
AGE GROUP

Until then, apart from some exceptions, the thinking that dominated psychiatric morbidity surveys was associated with a rejection of psychiatric diagnostic categories and an enthusiastic acceptance of the measure of general impairment as the criterion for measuring ill-health. This was particularly true in the U.S. Such an adoption of undifferentiated measure of severity, while contributing significantly to achieving a greater understanding of social processes, gradually reached a point of theoretical sterility associated with insurmountable methodological obstacles. The availability of reliable case-finding instruments brought along with it a theoretical shift which implicitly acknowledged the desirability, if not the validity, of linking disorders or impaired functioning as found in the general population to well-rehearsed and long- standing concepts of discrete mental disorders, familiar to hospital or clinic-based professionals. Although occasional rumblings about the validity of such an approach can be heard today and a fear that this renaissance of psychiatric epidemiology itself might be short-lived is being expressed with increasing vigour, the general approach in morbidity surveys is most significantly influenced by conventional psychiatric or psychobiological theories and nosology and increasingly shares its objectives with general, medical epidemiology. The studies described in this section therefore are discussed under two parts, (a) early studies or population surveys which did not use operational definitions or standardised interviews in case definition or identification and (b) recent studies which have employed such robust and reliable methods.

a. Early Studies

According to Weissman & Klerman (1978) the first partialy completed attempt to investigate the true prevlance of mental disorders in a community in the U.S. was undertaken in 1855 by a Dr Edward Jarvis. His study in Massachusetts surveyed key community leaders as well as consulting mental hospital records. The first systematic study of mental disorder in the community based on reliable statistics was conducted by Carl Brugger in Thuringia, Germany in 1929 (Taylor and Chave 1964). Using the records of mental institutions to identify his patients, Brugger subsequently interviewed general practitioners, clergy men and administrative officials and also some of the 'elders' in the 116 villages he covered by the survey. He repeated the study two years later in Bavaria by using more intensive case-finding techniques. The annual prevlance of all psychiatric disorders was higher in Bavaria (6 per cent) than in Thuringia (1 per cent) (taken from Taylor & Chave 1964). In a review of early general population studies Taylor & Chave (1964) also refer to the Stromgren study in 1935 in Bornholm, Denmark where the prevalence of all psychiatric disorder was 2 per cent and Sjoegren's enquiries in a Swedish island in 1944 which also produced a prevalence rate of 2 per cent. Both of them had combined field surveys with additional information from a variety of other sources. A much higher rate was obtained by Bremer in 1944 among a small island community in Norway. Through personal contact he surmised that nearly 20 per cent of the individuals in that community had psychiatric disorders. It is difficult to establish from the published paper (Bremer 1951) whether this figure is more

appropriately considered as an estimate of life-time prevalence because it is clear that at least some of the individuals included as having psychiatric disorder were so categorised on the basis of a previous hospital admission. A five year period prevalence was however reported and the rate for women was 8.3 per cent and for men 2.9 per cent.

Brugger's method of systematic and total survey of a well-defined population was best exemplified in the study by Essen-Moller et al (1956). They conducted a medical census in a small rural area in Lundby in Southern Sweden in 1947. The four psychiatrists personally interviewed 98.8 per cent of all the inhabitants (n = 252Ø) within a period of two months! Point prevalence of neurosis was reported to be 1.5 per cent and life-time prevalance was 5.2 per cent. Life-time prevalence of 'mild depression' was estimated to be 1.9 per cent. Prevlance of psychosis (1.6 per cent) was as frequent as that of neurosis and among the 4Ø individuals with psychoses 23 had depressive or manic (including confusional) psychoses. As far as total psychiatric morbidity was concerned prevalence was reported in terms of a cumulative distribution. 13.6 per cent had 'severe' mental disorder and 59.3 per cent exhibited signs of any disorder irrespective of the severity (mild to severe). Apart from neurotic and psychotic disorders, this included personality variations according to Sjobring's classification as well as intellectual impairment (oligophrenia). Total life-time prevlance of adult depression was estimated to be 3.7 per cent for women and 2.1 per cent for men (Essen- Moller & Hagnell 1961) but only one-third of these probands was depressed at the time of the investigation.

Ten years after the first survey, Hagnell interviewed the same population (Hagnell 1966). In Scandinavian countries the total population studies using face to face interviews became less attractive with the advent of case-registers and other methods of recording complete psychiatric information within a geographically delimited population. The alternative to Brugger's method, namely Klemperer's catamnestic method had with a few notable exceptions (Helgason 1961, Fremming 1947) never attained the same popularity with psychiatric epidemiologists of that generation. However, both approaches fell into gradual decline over the years although one can still see (for example, Hagnell 1966) the influence of early Scandinavian psychiatrists such as Stromgren, Sjoegren, Bremer, Book, Odegaard, Essen- Moller who so successfully developed the Munich tradition of Brugger and established psychiatric epidemiology quite firmly in the context of general population surveys. The Samso-Aarhus studies, the later Lundby studies, and the Risskov studies also owe their success and impact to that kind of influence. What was central to the aims of all these investigations was the idea of complete enumeration of all individuals within a geographically delimited area and to provide total disease rates. General population surveys became less important with the advent of case-registers which sought out that kind of information which general population surveys had attempted in the past. So, at least in Scandinavian countries, over the more recent years general population studies have gradually become an adjuvant of hospital based studies (e.g. Sorensen & Stromgren 1961, Nielsen & Nielsen 1979).

The early American studies were also concerned with estimating total population prevlance. The mental hygiene study in Baltimore by

Lemkau et al (1941) calculated period prevlance rates on the basis of a general population survey and analysis of hospital and other records. The Williamson County study (Roth & Luton 1943) similarly involved household interviews. But it was a series of studies since the Second World War that systematically and exclusively addressed themselves to measuring general population morbidity through survey technique alone.

The studies by Pasamanick et al (1959) drew random samples from the population of Baltimore, stratified according to levels of disability. Sub-samples from a probability sample of 12,ØØØ were drawn by this group and the physical morbidity of this sample had already been established by previous household interviews and examinations. They found an overall point prevalence rate of 5.3 per cent for all psychoneuroses in this "non- institutional" group. There was no evidence of a decrease in the prevlance rate for neuroses with age. The point prevalence rate of psychoses in this population was Ø.4 per cent and in addition the authors provided point prevalence rate for what they called "psychophysiological-autonomic visceral disorders" at 3.7 per cent (Pasamanick 1961). The overall prevalence of all psychopathology (including behavioural and personality disorders) was 12.8 per cent (Dohrenwend et al 198Ø).

The epidemiological study of Eaton and Weil (1955) among the Hutterites, an Anabaptist religious sect scattered across the prairie states of North and South Dakota, Montana and Southern Canada is already enshrined in psychiatric literature for its failure to find cases of schizophrenia in this community. The authors directly evaluated only a small proportion of their study population dispersed

over 94 separate colonies and case finding was primarily by interviews with colony leaders. Prevalence of psychopathology estimated thus was relatively very low at Ø.6/1ØØ, the two major categories within it being neuroses (Ø.3/1ØØ) and personality disorder (Ø.Ø7 per 1ØØ).

Two other general population studies of this period were by Cole et al (1957) who evaluated mental health in a sample drawn from the predominantly Mormon Salt Lake City, Utah population and by Trusell et al (1956) who drew a random sample from a rural area in New Jersey County, the population first stratified according to disability. Like their predecessors neither of these studies used standardised, reliable case- finding techniques and psychiatric classification was achieved on unspecified 'clinical' ratings. Both found very high degrees of psychopathology in their samples, 3Ø per cent by Cole et al (1957) and 18 per cent by Trussel et al (1958). The latter study did not distinguish between various kinds of psychiatric disorder, partly because it was primarily attempting to compare various methods of assessing the extent of chronic morbidity in the community and took psychological disorder as a unitary condition akin to other diseases with reference to specific organic impairment. One interesting finding of this study was that for psychiatric disorders ("mental, psychoneurotic and personality disorders") the reported prevalence in response to a questionnaire was only 5.4 per cent but on medical examination of the respondents 18 per cent of the sample were found to suffer from the condition.

In Salt Lake City the prevalence of psychoses was 3 per cent and neurosis 17 per cent.

These studies were the forerunners of the much celebrated and equally criticised Mid-town Manhattan studies (Srole et al 1962). In many ways this study marked the high point of the immediate post-war enthusiasm for an "epidemiology of mental health" (Klerman 1985) as well as the beginning of a reappraisal of the psychiatric epidemiological approach which it epitomised (see, for example, Weissman & Klerman 1980, Srole & Fischer 1980). The study itself was initiated by Thomas Rennie who along with his colleagues were aiming to describe and analyse the mental health experiences of a probability sample of 1,600 adults (age between 20 and 59) in Manhattan. The field survey was carried out in 1954. Although it was 'unarguably a major epidemiologic study of the possible impact of urban conditions on the mental health of a metropolitan population' (Weissman & Klerman 1980) the conceptual approach it embodied in relation to mental health and illness was derived more from anthropology and sociology than prevailing psychiatric perspectives. In the cross- sectional study mental health of the respondents was classified as "impaired" and "not impaired" on a global scale. Three categories of impairment were recognised (most severe, midway and least severe). This method took into account not only the respondents' symptoms, but also the extent to which his social functioning was impaired and the assignment of the individuals to a category (as above) was not based on a symptom count but on the subjective judgement of the psychiatrists who examined the condensed interview schedules. Interviews were administered by non- medical personnel. Twenty-three per cent of the sample was found to be having "impaired mental health" although only 2.7 per cent of the sample was 'most severely' impaired. Further diagnostic

differentiation in this group was not attempted. Over 80 per cent of the sample were reported to have had definite psychiatric symptoms although this was not synonymous with mental health impairment. Another study using a similar methodology but carried out in Stirling County, Canada soon after the midtown Manhattan study (Leighton et al 1963) echoed these results and found that 69 per cent of the population were 'genuine psychiatric cases'. The reported prevalence from the study was 54.3 per cent.

A more recent North American study concerned with undifferentiated psychiatric morbidity in the general population was by Schwab & Warheit (1972). They found on the basis of written records derived from structured interviews conducted by non-medical personnel within a random sample of the population of Alachua County, Florida (a rapidly expanding semi-rural area) that the prevalence of psychiatric disorder was 31 per cent.

The major drawback of these studies is their approach to case definition. The imprecision and unreliability of psychiatric nosology in existence at that time along with the dominant Meyerian concepts of the unitary nature of mental ill health, doubtless contributed to the research strategy of substituting measures of global impairment for traditional psychiatric diagnostic categories. However, as the Scandinavian studies had already shown, application of hospital derived notions of discrete mental disorders was possible in the general population.

The first British study seeking prevalence rates in the general population by using intensive case-finding procedure was by E.O.

Lewis in 1929 (Taylor and Chave 1964). Data was collected from a variety of sources in the community and home visits were used to verify the information so obtained. For the six areas studied, Lewis reported a prevalence rate for mental deficiency of Ø.9/1ØØ and the condition was more prevalent in rural compared to urban areas.

The first study of neurotic symptoms in a non-hospital setting was by Fraser (1947). He examined a total of 3,ØØØ men and women in thirteen light engineering factories and found that 1Ø per cent of them had severe, disabling neurotic illness and a further 2Ø per cent had minor forms of neurosis. These were six month period prevalence rates.

It was the study by Mayer-Gross (1948) that first used in a British setting the methodology of the Scandinavian psychiatric epidemiologists. Based on the method of Stromgren, who developed Brugger's methods of population survey in Denmark in the late thirties, Mayer-Gross, then working at the Crichton Royal Hospital in the Scottish Borders, studied the rural population of Dumfriesshire. Case-finding was through secondary sources and the survey did not include any interviews. In contrast to the American studies, Mayer-Gross, fully steeped in the European tradition of psychiatry, used twenty-two 'clinical diagnoses' to describe his population. Prevalence of all psychiatric disorder (past and present) was 9 per cent. This included all psychiatric illness and mental deficiency. A similar rate for "neurosis and psychopathy" was less than 2 per cent and "affective psychoses" in this sample was Ø.35 per cent.

Unlike in the United States, subsequent studies of the general population in the United Kingdom were not based on community surveys as such. The introduction of the National Health Service in 1948 with its tripartite structure comprising of specialist services, local health service and general practitioner service meant that the morbidity pattern in the community could be conveniently assessed by studying those attending general practitioners. Such studies are not dealt with in this review although it is worth emphasising that these surveys confirmed to a large extent the existence of an untreated and undetected pool of psychiatric morbidity in the general population.

Three studies in the U.K. which employed case-finding through interviews with samples of the general population are however relevant to this discussion (Martin et al 1957, Taylor & Chave 1964, and Hare & Shaw 1965). Following the Second World War there was a period of large-scale urban planning in the U.K. and this resulted in the creation of new towns or housing estates on the periphery of existing towns. Much publicity was given to the possible psychological consequences of living in these new urban surroundings and there was also interest in the health consequences for people who were uprooted from their traditional environments and migrated into these new estates. This had provided the social scientist with an experimental situation and these three British studies were concerned with exploiting these factors.

The survey by Martin, Brotherston & Chave (1957) was carried out in a new housing estate about twelve miles from London. This estate, which was called "Outlands", was planned as a dormitory suburb and

16,500 people had moved there from all parts of London. Between 1952 and 1955 a survey was carried out here to study the health, use of services and aspects of social and economic circumstances of the people who had moved to Outlands. A mental health enquiry was part of this survey. The indices by which the prevalence of psychological disorder was measured consisted of:

(1) mental hospital admissions

(2) psychiatric referrals

(3) psychiatric treatment by general practitioners and

(4) self-reported nervous symptoms obtained through interviews in a sample survey.

The estimate of the self-reported nervous symptoms was based on the presence of specified symptoms such as "nerves", depression, sleeplessness and undue irritability. Rates of psychiatric disorder estimated according to the four incides showed that 35 per cent of the individuals over age 16 reported psychiatric symptoms; 8.6 per cent was the treatment prevalence of psychiatric disorders with general practitioners; 0.3 per cent was the prevalence of in-patient treated psychiatric morbidity. All these indices suggested that mental illness, particularly in its neurotic manifestations, was more prevalent in this new housing estate than in the country as a whole.

Taylor and Chave (1964) developed these arguments further and tested the specific hypothesis that the rate of mental illness in a new housing estate (Newton) would be greater than in the original borough from where its people had migrated (Oldfield). A random sample of 76 households were selected from the electoral roll in Oldfield and another sample of 1520 individuals selected in Newton.

Face to face interviews were carried out and this included a check-list of specific psychiatric symptoms. Nearly 25 per cent of the Newton sample had 3 symptoms out of 4 of depression, irritability, nerves and sleeplessness. Nearly one third (33 per cent) reported at least one of these symptoms - "the sub- clinical neurotic symptoms". This compared with 35 per cent in Outlands (Martin et al 1957) and 31 per cent in Oldfield, the borough from where most of the residents in Newton originally came. Taylor and Chave also estimated that 8 per cent of the population were treated by their general practitioners for definite psychiatric illness and Ø.4 per cent were referred to out-patient psychiatric clinics with half of this group having a history of in-patient care.

Hare and Shaw (1965) compared a new housing estate (New Adam) and an old established area in Croydon, London (Old Bute). Their study involved interviews with over 3,ØØØ people from a 1Ø per cent random sample of households in these areas. Psychiatric assessment was through a check- list of five symptoms (fatigue, depression, anxiety, phobia and insomnia) with one set of additional questions in the presence of symptoms to establish their recency. There were also questions about 'dizziness, blackouts, fainting spells' as well as 'nervous trouble of any kind'. History of "nervous trouble" in the presence of either medical consultation of dimunition of activities constituted a diagnosis of 'neurosis'. The point prevalence (over a 2 week period) of neurosis was 14 per cent among women over 16 years, that of depressive symptoms 11.8 per cent and anxiety 7.9 per cent. Apart from anxiety, other symptoms were more prevalent in the new town.

These three studies were systematic attempts at answering a specific question relating to the psychological impact of urban development. For present purposes, these studies illustrate the historical developments in the methodology and execution of general population surveys, although the validity of the estimates of psychological morbidity so measured must be laced with some caution. By our present standards, the case-finding and diagnostic techniques are rudimentary and within each survey the selection factors that operated in terms of migration to these areas limit the generalisability of the findings.

It is interesting to note that a small group of general population studies conducted outside Western Europe and North America in the late sixties and early seventies has obtained results similar to what has been discussed so far. Bash and Bash-Liechti (1969 and 1974) carried out two epidemiological surveys in Iran, one in the city of Shiraz and the other in five small rural districts. The first of these was a prevalence study of all the people above 6 years in five small villages and the survey population of 482 constituted 99.4% of the total population. Lay interviewers screened this population for mental ill health on the basis of "common sense judgement". All those suspected of "neuropsychiatric pathology" were subjected to individual clinical examination by project psychiatrists. They found a point prevalence of 14.9 per cent suffering from psychiatric disorder. There was no difference between men and women and the major diagnostic category was 'reactive disorders' which accounted for 58 per cent of the cases. One woman with affective psychosis and 3 men with depressive neurosis were identified. In addition there were six individuals who were thought to be suffering from "simple

pathological development-depressive" a category peculiar to locally adopted classifications but which appears to be similar to depressive personality diagnosis in the ICD. The point prevalence of all these affective disorders taken together is 2.1 per cent. In addition 1.5 per cent of the cases had evidence of organic psychiatric disturbance. 7 per cent of the cases were thought to be 'severely diseased' and an additional 42 per cent with "unquestionable neuropsychiatric pathology and in need of specialised medical aid, socially and economically significantly impaired". The authors suggest that the prevalence of minor or neurotic disorders that they found in this rural community was inconsistent with the notion that such disorders were rare in peasant or village communities.

The second study by Bash and Bash-Liechti (1974) was a based on randomised one per cent sample of 64,ØØØ households of the city of Shiraz, Iran. They followed roughly the same methodology with a two stage assessment for psychiatric morbidity. The overall prevalence was found to be 16.6 per cent, that of neuroses was 5.8 per cent, the largest single diagnostic category. Taking all the cases of affective disorder together (as above) the point prevalence was 2.5 per cent. Depressive disorders were more prevalent among women, and women to men ratio was 4:1. A comparison of the findings of the two studies did not reveal any significant differences.

A series of fascinating studies from Croatia, Yugoslavia (Lemkau et al 1971; Kulcar et al 1971, Crocetti et al 1971) were not only concerned with estimating prevalence of psychotic illness in two geographically discrete areas, but were also attempting to test the hypothesis that one area had considerably higher rates for psychosis

than the other. Starting from the observations and belief of local psychiatrists that the area at the north- eastern tip of the Adriatic Sea (Labin and the Istrian peninsula) produced disproportionate numbers of psychotics, a group of psychiatrists and epidemiologists first looked at hospitalisation rates on the basis of a national sample. They confirmed the clinical observations. It then became necessary to determine general population based total morbidity of psychosis and the investigators achieved this by systematic field surveys in the study area along with a comparable control area. Semi-structured interviews and ICD-8 diagnoses were used. The results did not refute the hypothesis. Next a probability sample of 86 clusters of 200 families each was drawn of Croatia and on completion of field surveys with a quarter of this sample the results again confirmed that the control area had much lower prevalence rates than the study area and the difference was most marked for 'functional' psychoses. The higher rates could not be explained by age differences in the population nor by such data on migration as were available. Further studies of the sample of the total population with the aim of assessing incidence rates are in progress. The 3 month period prevalence for manic depressive psychosis in Labin (study area) was 241/100,000 and in the control area 63/100,000. For all functional psychoses there was a ratio of 2.7 between the two areas. The difference in the rate for affective psychosis was persistent in all age groups.

Dube & Kumar (1973) conducted a general population survey in Agra, India which involved clinical examination of those identified as probable cases in a screening interview. 37 cases thus identified in a population of over 29,000 gave a point prevalence rate for manic-

depressive psychosis (by criteria unsepcified) of 126/100,000. There was an excess of females, the highest prevalence rates were in women aged 15-34 and men aged 35- 54. Another study from India (Thacore et al 1975) measured psychiatric morbidity, defined broadly but operationally, in a population of 2,696 individuals. The sample was chosen from all the families registered with an urban health centre. After initial screening through a health questionnaire all those suspected of psychiatric illness were examined clinically. One year prevalence rate of psychiatric illness was 8.2 per cent with neurosis showing a prevalence of 2 per cent. Among the identified cases there were large numbers of mentally retarded (17 per cent) and those with only enuresis (17 per cent and personality disorders, mainly "habitual excessive drinking" (23 per cent). Male/female rates were not significantly different.

b. Recent studies

Here all general population surveys which have employed standardised psychiatric assessment procedures and operational definitions of psychiatric diagnosis are considered. Such surveys have marked a major development in population studies and compared to previous studies using widely differing case-finding methods and imprecise diagnostic categories they form a distinct and uniform group of epidemiological studies. The availability of operational definitions along with allied, structured interviews, the dissatisfaction with existing case-finding techniques to populations at large and the demonstration that such psychiatric assessment could be carried out by non-medical personnel all contributed to the adoption of such

assessment procedures in general population studies. As discussed previously in this chapter, by the early seventies, epidemiological studies of psychiatric morbidity in general populations had reached a theoretical stalemate in the absence of more reliable diagnostic techniques. The theoretical shift towards studying discrete psychiatric disorders was hastened by developments in other areas of research and all these factors converged to make it necessary and feasible to apply more specific and reliable assessment of mental state in community studies.

The first such attempt at the assessment of mental state, using a standardised psychiatric interview allied to a standardised diagnostic classificatory scheme, in the context of general population, was by using the Present State Examination (PSE 9th edition, Wing et al 1974). Other workers, notably Goldberg and his colleagues (1972) have devised questionnaires that are fully standardised and have specified "cut-off" scores to determine the existence of psychiatric morbidity. This case- finding method has been used extensively in surveys and the semi- structured clinical interview schedule (Goldberg et al 197Ø) has also proved to be of value in community surveys. It is the absence of a subsequent process of classification based on operationally defined diagnostic categories that distinguish such instruments from the PSE or other similar methods. George Brown and colleagues from Bedford College, London began a series of general population surveys in 1969 (Brown et al 1975, Brown et al 1977, Brown & Harris 1978, Brown & Prudo 1981). These studies were primarily concerned with aetiological questions and in particular the psychosocial origins of depression and were therefore not designed to address questions about morbidity patterns

in a total population. Nevertheless they are important in the discussion of epidemiological estimates because of their methodological rigour and the choice of a case-finding technique which was unique at the time. Such a choice was determined by the desire to provide comparable case and symptom definitions in the general population to what was being achieved in hospital patients.

The technique adopted by the Bedford College team was to employ trained, non-medical interviewers who administered a short version (first 40 items) of the PSE to the study sample. Those suspected of having psychiatric disorders were revisited or the audio-tapes of the interviews recorded were rated by a team of psychiatrists. A proportion of 'non-cases' was also re-assessed. Brown and colleagues used global ratings subsequent to this to assign individuals to three categories - "definite cases", "border-line cases" and "normals". Both definite and border-line cases were included in most morbidity estimates.

The first survey was in 1969-1971 and was conducted in Camberwell, a geographically distinct urban area in South London with a predominantly working class population. 220 women between ages 18-65 were selected from households drawn at random from local authority records of households in the area. Psychiatric status of these women were assessed over a period of one year prior to the interview. Presence of psychiatric disorder in the three months prior to the interview was used to provide a period prevlance rate. This was 16 per cent (35/220) for 'definite cases' and there was an additional 20.5 per cent (45/220) falling into the 'borderline case' category. Amongst the 35 definite cases, 60 per cent (n = 21) were

considered to have had a recent onset (within the last year) and the remainder had been ill for over 12 months.

The second Camberwell study was carried out in 1974/5 and this included an additional 238 women chosen as before. Psychiatric ratings were achieved by using the PSE again, with revisits or verification by psychiatrists. Combining the two studies together Brown and colleagues have reported both annual and three month prevalence rates. In the total sample of 458 women, 76 (16.6 per cent) were "definite cases" and 87 (19.Ø per cent) were considered as borderline cases within the last year. Annual period prevalence of psychiatric morbidity in this group of women was, therefore, 16.6 per cent. Three-month period prevalence of all psychiatric disorders was 15 per cent and 18 per cent for definite and borderline cases respectively. In 1976 Brown et al studied a 1 in 4 random sample of women in North Uist in the Outer Hebrides using the same research methodology. Period prevalence rates reported for this community are lower than that found in London. A comparison of various prevalence rates is included the following table.

TABLE 3.1

PREVALENCE OF PSYCHIATRIC DISORDERS IN CAMBERWELL & NORTH UIST

(adapted from Brown & Harris 1978 & Brown & Prudo 1981)

Type of Rate	Type of Disorder	Camberwell Rates (%) n = 458	North Uist Rates (%) n = 154
One year prevalence	All - definite cases	16.6	12.Ø
	- borderline	19.Ø	
	Definite Depression	15.1	8.4
	Definite Anxiety (& others)	1.5	3.6
3 month prevalence	All - definite cases	15.Ø	1Ø.Ø
	- borderline	18.Ø	14.Ø
	Definite Depression	13.3	5.8
	Definite Anxiety (& others)	2.4	5.2

As can be seen from the table, prevalence of total psychiatric morbidity is greater in London than it is in North Uist. The rates of depression are also consistently higher in Camberwell but the Hebridean women show twice the rate of definite anxiety when compared to London women. The anxiety group also contained very few other categories, namely obsessional disorders. On another island off the Scottish coast (Lewis) Brown & Prudo (1981) found rates of depression more comparable to the London sample, annual prevalence of 12.9 per

cent and 3 month period prevalence of 10 per cent. The Bedford college team has elegantly exploited these differences in rates between an urban and rural community to put forward specific hypotheses concerning the social determinants of affective disorders. In one sense, this was possible because the authors had applied the same reliable and repeatable methods to measure psychiatric morbidity in the two population groups that they studied.

One of the criticisms of the Bedford College studies is that they did not use a conventional scheme for achieving psychiatric diagnosis although the collection of clinical information was through a well standardised procedure (see, for example, Tennant & Bebbington 1978). Part of this criticism has been met by the specification of a post-hoc check-list which is a representation of the methods for case assignment followed by the Bedford team (Finlay-Jones et al 1980). Another way of validating the Bedford College criteria (in relation to psychiatric patients assessed by psychiatrists) was the approach by Wing et al (1978). Using their index of definition or ID (Wing 1976) which defines levels of disorder corresponding to increasing certainty that the subject is a case, the authors examined the PSE ratings of 123 out of 238 interviews obtained in the second Camberwell study. It was found that the agreement on identifying 'cases' by the ID and the Bedford College criteria (levels 5 and 6 ID and definite cases according to Bedford) was very good overall (90.2 per cent). Further discussion on the relative merits of these case criteria can be found later on in this literature review.

The next study that used the PSE in a population survey was carried out in two small Ugandan villages in Africa (Orley & Wing 1979). A

total of 206 individuals were assessed (106 men) using an interpreter and the prevalence of disorder (one month) in this sample was (ID5 or above) 25.3 per cent, with women showing a higher rate (27 per cent) than men (23.6%). The point prevalence rates among women (18-65) for affective disorder were depression 22.6 per cent, anxiety 4.3 per cent and 2.2 per cent of hypomanic disorders. The corresponding rates among men were 14.3, 3.1 and 2.0 per cent respectively. As Orley & Wing show, compared to 237 women from the second Camberwell study of Brown et al, the overall rates as well as rates of affective disorder are higher in Uganda. If these findings can be assumed to be valid and taken together with studies by Leighton et al in Nigeria (1963), Nandi et al (1976) in rural India and Dube & Kumar (1973) in urban and rural areas in India, they would seem to indicate a considerable morbidity from affective disorders in the general population in Asia and Africa. Orley & Wing (1974) suggest that this might be due to the lack of psychiatric treatment or/and the greater likelihood of experiencing adversity in rural Uganda. Another explanation for these high rates (based on PSE symptoms) could be the presence of undetected or undeclared physical morbidity in the community.

Camberwell has been the setting of another recent general population survey (Bebbington et al 1981). This included both men and women aged 18 to 64. Lay interviewers assessed the psychiatric status of 800 individuals chosen from the electoral roll. This assessment was carried out using the 40-item PSE. Eighty-three per cent of those identifed as cases (ID 5 or above) at this stage and a random sample of all the non- cases were re-interviewed (total re-interviews, 82 cases and 228 non- cases) by 3 research workers (2 psychiatrists)

using the full 140 item PSE. The results of these second interviews were appropriately weighted back to the original sample.

The overall, weighted, one-month prevalence based on PSE-ID criteria was 10.9 per cent. For women this was 14.9 per cent, significantly higher than for men (6.1 per cent). Depressive disorders had a prevalence of 9.0 per cent in women compared to 4.8 per cent in men and anxiety also showed a higher prevalence among women (4.5 per cent) when compared to men (1.0 per cent).

A study carried out in Canberra, Australia (Henderson et al 1979) used a different strategy to assess population morbidity. They used a two-phase design with the General Health Questionnaire (GHQ) (Goldberg 1972) as a screening instrument. Samples from all levels of GHQ scores were included in the second phase which involved interviews using the full PSE. In this way those who were successfully interviewed in phase 2 were a representative, though weighted, sample of the total, and therefore of the general population. Prevalence of psychiatric disorder could thus be calculated for the general population by weighting back from the phase 2 sample. A total of 756 individuals (396 women) were included in phase 1, 85 per cent of the target sample drawn from the electoral roll. 157 of this group were assessed using the PSE in phase 2 (72 men and 85 women). Prevalence of psychiatric disorder (ID>4), weighted back to the original sample was 7 and 11 per cent for men and women respectively. Depressive disorders showed a one month prevalence of 2.6 per cent (men) and 6.7 per cent (women) and for anxiety disorders the corresponding rates were 4.1 and 3 per cent. The lower overall rate, the higher anxiety rate in men and lower

depression rates in both sexes distinguish these results from those obtained by Bebbington et al (1981) in Camberwell. Whether these represent real differences or are a product of differences in threshold for rating symptoms remains unexplained.

Two influential studies from the U.S. have also had considerable impact in defining current priorities in psychiatric epidemiology. The New Haven studies (Weissman & Myers 1978, Weissman et al 1978, Weissman & Myers 1980) report the results of the second follow-up of a community survey started in 1967 (Myers et al 1972). Starting with a random sample of 938 individuals 720 were seen at the first follow-up two years later and the present series report the results of 511 subjects seen at the second follow-up in 1975-1976. Information for making diagnostic judgement was collected by trained lay interviewers using the Schedule for Affective Disorders and Schizophrenia (SADS) (Endicott & Spitzer 1978). On the basis of this information, diagnoses could be assigned using the Research Diagnostic Criteria (RDC) which is a set of operationally defined diagnoses with specific inclusion and exclusion criteria for a variety of nosological groups (Spitzer et al 1978). Point prevalence of current psychiatric disorder thus estimated was 14.7 per cent for women and 5.5 per cent for men. For women the rate for generalised anxiety was 3.1 per cent, phobic disorder 1.7 per cent and panic disorder 0.3 per cent.

The major limitation of this study is that it is a follow-up study and the rates refer to the cases remaining in a cohort rather than a sample of the general population as such. Attrition rates, and the severity of illness in the probands could bias the results so obtained. The overall rate as well as that for anxiety disorders was

higher in New Haven compared to Camberwell. This study, of course, sought a larger number of diagnostic categories in the sample than the PSE (especially the shorter version) would have been able to pick up. The New Haven sample was also older than the London sample.

Another small but important difference between this study and the British studies is the way it dealt with individuals with sufficient symptoms to meet more than one diagnosis. The problem of such co-morbidity is just beginning to receive attention in epidemiological literature. Since the PSE and the allied CATEGO system impose cut-offs and hierarchies when dealing with symptomatic data, the likelihood of receiving more than one diagnosis is minimal (say, for example, panic disorder and depression). The use of RDC, although it has hierarchical rules built into certain diagnostic categories (such as schizophrenia to be excluded before certain diagnoses can fulfil the criteria) however enables the interviewer to assign more than one diagnosis for the current condition(s). Hence, in the New Haven studies, the rates given are not additive and strictly speaking the numerators are the number of times the given condition is identified - not necessarily identical to the number of individuals who are 'cases'. 4.5 per cent of the individuals in this study had more than one current diagnosis.

SADS and RDC were also used in another follow-up survey in a general population study in Alameda County, California (Vernon & Roberts 1982, Roberts & Vernon 1982). Interviews were conducted in two stages, the SADS being administered at the second stage. The population sample consisted of 219 whites, 187 blacks and 122 Mexican-Americans. One year prevalence of any RDC psychiatric disorder was

20.1 per cent and point prevalence was 11.4 per cent. One year period prevalence of definite and probable depression (both major and minor together) was 7.2 per cent (major only 4.7 per cent). Point prevalence was 2.1 per cent for major depression and 1.3 per cent for minor depression. This survey also gave estimates of life-time prevalence of depression based on SADS-L. This was for any depression - 25.6 per cent among whites, 16.6 per cent for blacks and 27 per cent for Mexican-Americans. Weissman and Myers (1978) in their study had reported life-time prevalence rates of 27.8 per cent for whites and 17.0 per cent for blacks.

The most extensive epidemiological study concerned with psychiatric morbidity in the general population in this decade is the Epidemiologic Catchment Area (ECA) program curently in progress in the United States. The ECA program is a collaborative effort covering five sites (Baltimore, New Haven, St. Louis, Durham and California) and involves the application of common diagnostic and health utilization instruments at six monthly intervals to large general population samples, including persons in household and those who are in institutional care. Results of the first wave of the ECA study are reported from three sites (Baltimore, New Havan and St. Louis) (Robins et al 1984, Myers et al 1984). One of these (Myers et al 1984) report three month period prevlance rates. This was based on over 3,000 interviews and psychiatric assessment was carried out using the Diagnostic Interview Schedule (DIS), a highly structured and standardised instrument specifically designed to be used by lay interviewers (Robins et al 1981). On the basis of DIS, diagnoses are derived according to Feighner criteria, DSM III and RDC. Rates reported have been estimated by weighting and post-stratification

adjustment procedures so that survey based estimates for age, sex and race distributions of the ECAs are comparable with the distributions indicated by 1980 U.S. census of these areas. The three month period prevalence of any affective disorder (major depressive episode, 'bereavement' but fulfilling major depressive disorder criteria, manic episode and dysthymia) varied from 4.6 per cent in Baltimore to 6.5 per cent in New Haven. Women had higher rates than men and they were 6.0 per cent in Baltimore, 8.2 per cent in New Haven and 8.3 per cent in St. Louis. Total rate of any current (6 months) disorder varied from 14.8 to 22.5 per cent. The rates for major depressive episode was 2.2 per cent, 3.2 per cent and 3.5 per cent in Baltimore, St. Louis and New Haven respectively.

The similarity of findings between ECA results and the New Haven studies using SADS-RDC is impressive. The current point prevlance rate of major depressive disorders in New Haven in 1975-76 was 4.3 per cent compared to a six month prevalence rate in the same area in 1980 of 3.5 per cent. Similarly the difference in overall rates is minimal with a SADS-RDC based rate in 1975-76 study (point prevlance) of 17.8 per cent and a six month period prevalence for all conditions five years later of 16.9 per cent. This is in spite of the fact that the two studies used diferent diagnostic criteria, samples chosen were markedly different, time period covered in calculating rates were not identical and one reported sample based estimates whilst the other included weighting for age, sex and race according to the general population.

SECTION II

COMPARISON OF TREATED MORBIDITY AND GENERAL POPULATION MORBIDITY WITH SPECIAL REFERENCE TO RISK FACTORS

Since this thesis describes a study that attempts to contrast and compare hospital treated affective disorders with that detected during a community survey, the literature pertaining to this issue needs to be examined. Comparison is of course the essence of much of epidemiology. Most comparisons assume that everything else is equal apart from the factor by which the groups are distinguished (e.g. sex, age, place, etc) or control for the confounding effects of such other differences. But comparisons can also provide much valuable information about the disease conditions we are studying and often help us improve our understanding of the clinical picture we are interested in.

In this section of the review an attempt is made to specify what we already know about the differences or similarities between affective disorders as seen in our day to day clinical practice and extensively studied by generations of psychiatrists and those in the general population who are similarly diagnosed but less thoroughly understood. We know much more about the first group than 'cases' in the community and hence our approach to understanding this latter group is often heavily influenced by the knowledge we have of hospital cases.

The review will cover the comparison of clinical features and risk

factors and other associations. The referral process itself or factors leading to illness declaration and inception into care will be mentioned only in passing, partly because these are not entirely germane to the objectives of the study described herein and also because some of the relevant points have already been brought out in earlier sections. The study of risk factors in relation to affective disorders has led to a great volume of publications and the literature relating to this area covers many topics and is derived from a number of divergent theoretical positions. It is not the intention here to provide a detailed appraisal of such a complex area. Aetiologically significant determinants of illness are mentioned primarily as an attempt to specify and to help bridge the differences between treated and untreated cases. In the 'treated' group of affective disorders comparisons between different treatment settings would cover only the out-patient and in-patient levels. It is likely that as a result one most important context of psychiatric treatment, namely that of primary care, is omitted. But even in the absence of such middle ground I hope that either side of the divide between population morbidity and institutional care could be adequately emphasised.

1. Clinical features

The first question is how similar are the 'cases' of affective disorders found in the general population to those identified in institutional settings as regards to their clinical features? Are symptoms and severity of such symptoms different in the two settings? Is there more or less of any particular diagnostic category? Are hospital cases more acutely ill than community cases? Is there any

difference in terms of previous history of psychiatric illness?

Before considering these questions, it is worth emphasising that a large proportion of 'cases' in the community do not seek help, even from their GPs, for their symptoms. Recent evidence would suggest that this could be as high as two-thirds of this group. Weissman & Myers (1981) in their New Haven study found that only 29 per cent of those with any current psychiatric disorder had sought any kind of medical or other professional help for their symptoms in the preceding year. For current depressive disorders, this rate was slightly higher (34 per cent). Consultation rate in those with no current disorder of any kind was 4 per cent. If consultation rate for "any family or personal problems" is looked at, as Roberts & Vernon (1982) in their study showed, nearly 40 per cent of those with depression would have sought help from some professional source, compared to 44 per cent with other diagnoses and 23 per cent with no diagnoses. These data of course relate to the U.S. In the U.K. because of the easier access to primary care physicians a higher rate of consultation could be expected and Brown & Harris (1978) show that this is indeed the case. 68 per cent of the 76 cases in Camberwell had consulted a doctor in the preceding year. This is not inconsistent with consultation rates for women in the National Health Service and it is estimated that 70 per cent of women consult their family doctor in the course of the year (see Goldberg & Huxley 1980). It might be that factors other than the symptoms influence individuals who are 'cases' in the community to seek help. But it remains that a number of individuals with symptoms still do not seek any help. If symptom severity is an influential factor in the decision to seek help (Goldberg & Huxley 1980 cite the study by

Hagnell (1960) and the Camberwell study mentioned above to indicate this) then a proportion of the population not only recognise their psychological disorder but consider it of sufficient severity to seek help. In contrast, the majority of patients with affective disorder seen in hospital settings would have had treatment prior to hospital referral. In one sense, these individuals have increased their chances of being in hospital treatment precisely because of that.

There is another issue related to declaration of illness or recognition of depressive symptoms by individuals who are 'cases' in the community. Myers & Weissman (1980) have demonstrated an apparent discrepancy between persons scoring high on a self-administered depressive symptom scale and persons whose disorder is diagnosed by use of the Research Diagnostic Criteria. While only 6 per cent of those persons whose conditions were not diagnosed by the RDC as depression had self-report scores above the established cut-off, nearly a third of the community sample with an RDC diagnosis of major depression were not detected by the depressive symptoms scale. Although Boyd et al (1982) have tried to explain such discrepancies on the basis of interview effects, sensitivity of the self-rating scale, concurrent physical illness, role impairment and denial, the possibility that the subjects' failure to recognise psychiatric symptoms (mood changes) as significant psychiatric or medical problems must be a contributing factor. So it is possible to say that depressive disorders, even in the presence of role impairment (required for fulfilling RDC criteria) are not recognised as significant symptoms and the severity in terms of individual distress is more difficult to measure.

It is only with the arrival of standardised methods of describing 'present mental state' that systematic comparison of the symptomatology of community 'cases' and hospital patients has become possible. Prior to that general population studies were content with reporting diagnoses with little information on the clinical features of individuals designated as ill. One exception to this is the population survey of Essen-Moller et al (1956). Of the 6 women and 2 men found to be suffering from affective psychosis in this study 5 had reported hospitalisation. The only instance where there is no mention of hospital treatment is of a woman between the ages of 30-39 (case number 2108W). She was described as "History of depressive psychosis. Severe late asthenia. Minor personality deviation. Always slow, meticulous, resentful, periods of trembling, headaches, sleeplessness. Five years ago, sleepless, anxious, strolling around at night, had to be brought home. Last year, following slight injury to the skull, tired, headaches. Slack, dull, rigid." The majority of affective disorders which Essen-Moller et al found were described as 'milder' depressions or neurosis. The symptoms which recur in this group are "emotional lability", "asthenia", "habitual anxiety or nervousness", "autonomic instability" etc. No case histories are given. The authors in fact admit that their classification "penetrated far into the 'average' population" and they acknowledged the difficulties in drawing a line between the diseased or abnormal and the sound part of the population. Taylor and Chave (1964) echo these sentiments and describe much of the morbidity that they found in their sample of general population in Newton as "sub-clinical neurosis". A third of the total sample that they saw reported at least one of the four symptoms of "nerves, depression, undue irritability and sleeplessness." These symptoms also had a

tendency to cluster, hence the justification for treating these four symptoms as a syndrome. The authors suggested that the individuals with these symptoms "may be regarded as a neurosis in a minor key, as it were, or the first sub-clinical stage in the development of a neurotic illness". Also, "the victims of these four symptoms pass more readily into frank neurosis than the rest of the population". Similar prevalence and clustering of these symptoms were noticed in the second area which Taylor & Chave studied (Oldfield) and in 'Outlands', the area covered by Martin et al (1957). They however comment that the disability consequent upon such symptoms, "the constitutional handicap" is appalling although it is noted that "too much sympathy may feed rather than contain the illness; kindly firmness and endless patience may well be desirable therapeutic attitudes". Although the majority of the 229 individuals with psychiatric disorder in Newton were suffering from 'neurosis' (92 per cent). 7 per cent were thought to be psychotic and only 1 per cent with personality disorders. Half of the psychotics had psychotic depression. In the neurotic group, in contrast to more recent findings, anxiety states had the highest prevlance (4.6 per cent annual period prevlance) followed by psychoneurosis in 2.4 per cent and then depressive neurosis Ø.7 per cent.

Dohrenwend and Crandell (197Ø) studied 248 subjects (41 community leaders, 124 adult heads of families chosen on a probability sample, 59 out-patients and 24 in-patients) by administering a specially designed questionnaire to elicit current psychiatric symptoms. Each of the 46 symptoms enquired about was also rated by a psychiatrist on a three point severity scale. The median number of symptoms in the community sample was 4.5 and in community leaders it was 1.8. Out-

patients (median 13.3) and in-patients (median 11.Ø) scored more highly. In general terms, a number from the community sample reported the presence of specific symptoms (e.g. 16.3 per cent anxiety, 24.4 per cent "feeling blue", 16.1 per cent low spirits, 18.5 per cent often nervous, etc). The resemblance between the community sample and referred cases in number of symptoms reported was due to the high frequency of "less severe symptoms" in the former group. They also tended to see their symptoms as less severe than that reported by the referred cases. One intriguing finding of the study was the higher prevalence and severity of symptoms in the out-patient group than in in-patients. The overall comparison was between hospital referred case and a general population sample and not 'cases' within the latter group.

Finlay-Jones (1980) in his review was mostly relying on the findings of more recent studies when he suggests that community cases have a lower ratio of neurotic symptoms to dysthymic states than what is found amongst referred cases. He used these terms in the sense that Foulds (1976) had used them in a hierarchy of classes that was suggested to underlie the presentation of psychiatric symptoms. Anxiety, depression and elation are in the dysthymic group according to this and form the lowest class in the hierarchy. (Dysthymia as a diagnostic class used in DSM III has a more specific meaning - depressive symptoms often associated with chronic duration). The neurotic symptoms, which according to Finlay-Jones (1980) occur more frequently in declared cases than in community cases belong to a higher class and consist of "conversion, dissociation, phobia, compulsion, rumination". He also argues that the 'dysthymic state' found in community samples is principally depressed while in declared

cases there are more mixed dysthymic states (i.e. a mixture of anxiety and depression). He bases this argument on a clutch of studies looking at out-patients with affective disorders and they demonstrated an overlap of symptomatology, with most depressives showing marked anxiety symptoms. In comparison, community cases as in the New Haven study and Camberwell study appeared to show predominantly depressive symptomatology. The separation of symptoms in community cases can be seen to exist, Finlay-Jones argues, in instances where diagnostic criteria for anxiety states were independent of those of depression. His example is the second Camberwell study (Brown et al 1977) where a purely depressive syndrome was the most common (10 cases in the year) followed by anxiety (4 cases) and then mixed anxiety and depression (2 cases).

The predominance of depressive disorder in the community cases does not by any means suggest that such conditions are 'pure' (i.e. without anxiety) categories. As Finlay-Jones admits, the introduction of case criteria with hierarchical rules can lead to anxiety symptoms being subsumed under depressive disorder. It is not apparent how many of the depressives so identified in fact will fulfil case criteria for anxiety and depression if the hierarchical rules are suspended. The Bedford College criteria which deal with anxiety and depression independently when applied to all the cases (n = 78) assigned 59 per cent of them to a single diagnosis but 41 per cent had a combination of depression and anxiety. With the borderlines, the proportion of single diagnosis was the same. However it was in the onset group (both borderline and cases) that the single diagnosis was more common (68 per cent of onset cases and 81 per cent of borderlines) and this would suggest that the relative

rarity of mixed states in the community sample could be true only of onset cases or cases in their prodromal state (as borderline could be understood, like the sub-clinical neurosis of Taylor & Chave (1964)). In other words, the longer the symptoms persist, more likely are they to acquire mixed anxiety-depression status. Clearly the hospital cases which Finaly-Jones refers to had been in episode for longer periods than the community cases.

Finlay-Jones also suggests that symptoms encountered in the community cases differ from declared patients on being less severe, of shorter duration and of less intensity. He cites Dohrenwend & Crandell (197Ø) who found that even when community cases and declared patients were matched for the total number of neurotic symptoms, the community cases appeared to have more of the less severe symptoms. These issues concerning the type and severity of symptoms occurring in the general population have been examained in great detail by the team from the MRC Social Psychiatry Unit, London (Wing 1976, Wing et al 1978, Sturt 1981, Wing et al 1981).

Wing (1976) applied the Index of Definition of psychiatric disorders to three series of PSE based psychiatric interviews to compare the morbidity at the general population, out-patient and in-patient levels. These were 118 in-patients (combining two series, one a random sample of admissions and the other consecutive admissions for schizophrenia or affective disorders), 3Ø out-patients (series of patients attending emergency and routine out-patient clinics and few patients following suicide attempts) and 237 individuals assessed by trained lay interviewers during the second Camberwell survey (Brown & Harris 1978). The index of definition (ID) allocates individuals to

one of 8 levels depending on the certainty with which they could be ascribed a diagnosis according to the PSE symptom ratings. Level 1 is achieved in the absence of all PSE symptoms, level 2 and 3 in the presence of only non-specific symptoms, level 4 in the presence of a specific symptom but without any related symptom, level 5 with specific symptom and other related symptoms or with 10 or more non-specfic symptoms and levels 6-8 when a definite diagnosis could be made. Level 5 is considered as the borderline or threshold level.

Almost all the in-patients (99.2 per cent) and the vast majority of out-patients (83.3 per cent) were found to achieve ID 5 or above. In contrast only 12.2 per cent of the general population was at ID 5 or above. 88.2 per cent of in-patients and 63.3 per cent of out-patients had definite disorders while only 2.5 per cent of the general population fulfilled these criteria. When all those reaching ID 5 or above were compared for the CATEGO classes (with ICD equivalents) it was clear that 71.3 per cent of the community cases were depressions while only 56 per cent of out-patients and 47 per cent of in-patients had this disorder. The majority of in-patients had other psychotic illnesses such as schizophrenia, mania or paranoid psychoses. The remainder of the out-patients were also distributed amongst these diagnostic categories while such disorders (except for one case of mania) were absent in the community sample, 23.1 per cent of whom had anxiety states. This gradient of severity was further emphasised on examination of the CATEGO class relating to depression. CATEGO class R and D (delusions and hallucinations) was absent in the community cases, while they were about evenly distributed in the hospital group. Half of the in-patients and nearly half of the out-patients (42.9 per cent) fell into CATEGO

class R or D indicating the presence of such symptoms such as retardation or pathological guilt while those in the general population were much less frequently characterised by these symptoms. The mean total PSE score of the general population group was also lower than that of patients seen at the hospital.

Another paper by Wing et al (1978) reinforces this message, that 'cases' found in the general population differ from hospital patients in the number, type and severity of their symptomatology. Data is presented on three series of patients again. The in-patient sample was drawn from the same source as in the previous study but excluding schizophrenic, manic and paranoid disorders. The out-patient sample also excluded these diagnoses.

The general population sample was drawn from the second Camberwell study as before but conisted of only those individuals who were re-assessed by clinical psychiatrists. There were no significant age differences between in-patients and depressive disorders in the general population. Comparisons of ID levels and total PSE scores in the three groups (in-patients, out-patients and general population sample) confirmed the earlier finding that the general population cases were distributed with nearly 80 per cent below ID 5, 17 per cent at ID 5 and only 3 per cent above the threshold level. The hospital cases showed very few individuals below ID 5 and the majority lying above case-threshold level. Examination of PSE syndrome profiles and symptoms profiles showed the rarity of severe and psychotic features (such as depressive delusions, motor retardation, pathological guilt, subjective anergia) among the community 'cases'. The severity of individual symptoms (irrespective

of the type of symptoms) as expressed by a rating of 2 (in a scale of Ø, 1 and 2) when examined showed that the ratio between the mean scores for the referred and population series was 6:1. Two-thirds of the total score from the referred series was derived from such ratings, while less than one third of the total score from the general population 'cases' was obtained this way. Wing et al also applied the Feighner criteria (Feighner et al 1972) to the PSE symptoms (assuming one month duration of symptoms) and found that, out of the 22 depressive disorders in the general population sample one achieved a definite diagnosis and 2 probable depressive disorder criteria. In contrast 16 of the 23 above threshold depressive disorders were definite and 3 probable while one patient could not provide the necessary subjective ratings. 7 of the out-patient series above threshold depressive disorders (n = 14) were also definite with another 5 meeting probable criteria.
It was also noted by the authors that in the general population sample, among 26 borderline or definite disorders present at the time of examination, 18 had the onset of their illness episode more than a year previously, while 8 had begun within the year.

Wing et al (1981), on the basis of information obtained during a general population survey (Bebbington et al 1981) returned to this theme and again demonstrated that 'cases' found in the context of general population surveys were on the whole different from referred cases to psychiatrists as identified and scored according to the PSE. Such variations clearly suggested that community cases were less severe at a symptomatic level and had a preponderance of non-psychotic depressive disorders.

The authors also showed that referred cases to the out-patient department were of shorter duration when compared to general population cases. In this sample of community 'cases' (n = 52), 5.8 per cent had begun their episode within one month of the interview, 44.2 per cent within a year and half (50 per cent) had been ill for more than a year. The equivalent proportions in the 64 out-patient 'cases' were 7.8 per cent, 62.5 per cent and 29.5 per cent demonstrating a significantly shorter course. It was also shown that the peak severity of symptoms, as reported by the subjects, occcurred towards the onset of the disorder and hence nearer the time of assessment for the out-patients.

There are two main reasons why the comparison of treated or referred cases and 'cases' in the general population is to be treated with caution. Firstly, as has been shown, the community cases are more likely to be chronic and if the peak of symptoms is associated with onset then comparison of chronic with recent onset cases (as most referred cases are) could lead to erroneous conclusions. Conversely, some of the cases in the community (especially those who are identified as a result of 'freeze-frame' cross-sectional studies) are being seen at the beginning of their episode and if longitudinal information on them is available, it is likely that symptom ratings and severity would be different. The second problem is to do with the threshold for rating symptoms and the criteria for caseness, both of which are biased against community cases (see Williams et al 1980).

Bebbington et al (1981), on the basis of the clinical differences between general population 'cases' and referred cases and because of

the discrepancy in the relationship between episode onset and adversity in the two groups have gone on to suggest that the former conditions are more appropriately considered as 'distress reactions'. Brown & Harris (1982) have rebutted such a claim and they pointed out that the women who were characterised as cases in their population surveys experienced essentially comparable symptoms to the individuals studied in out-patient clinics. They were convinced (Finlay-Jones et al 1980) that "psychiatrists would not have hesitated to see them (community cases) as psychiatricaly ill if seen in an out-patient clinic, and treated them accordingly". The only way such cases differ as a group from those seen in out-patient clinics, Brown & Harris suggest, is in the length of time of their disorders in that at least half of the case conditions in the general population are chronic (having lasted at least one year). Brown and colleagues in a prospective study of women with high risk of depression in Islington, London have confirmed the enduring nature of disorders in the community (Brown et al 1985). Out of a one year prevalence (definite or borderline) of 21.8 per cent (178/363), 92 per cent (164) were cases/borderline cases of anxiety or depression and of all the disorders in the year, 17.1 per cent were still cases in the month before the interview. 72 per cent of depression/anxiety disorders were still at or above the threshold level in the month. Of the 32 onsets of depression found in the year before the first interview (44 per cent) and followed up for at least one year, only one episode lasted between 2 to 3 weeks at 'caseness' level and only one between 3 to 4 weeks. 47 per cent of this group lasted continuously for at least six months, again emphasising the persistent nature of these symptoms.

Brown and colleagues also point out that the selective identification of certain community cases as requiring referral to psychiatrists by general practitoners must explain some of the symptomatic differences that are apparent when 'cases' in the two settings are compared. In the small series of women who did contact a psychiatrist, while not differing in terms of the number or severity of core symptoms of depression, those seen by psychiatrist did differ (from those who were not referred) in having a greater proportion with suicidal gestures and plans; and a greater proportion, suffering from alcoholism and drug addictions. General practitioners refer such cases to specialists, Brown et al suggest, because they are "more difficult or worrying" to them. The implication of such a finding, if it can be generalised, is that depressed women are seen in psychiatric practice not so much for their depression but because of the way in which they are dealing with it (Brown et al 1985). This, as the authors remark, gives a curious twist to the distress and disease issue.

There is a greater unanimity of views concerning the clinical nature of hospital referred cases of affective disorder. In fact, most of our theories about depression are derived from clinical observations of hospitalised patients. A review of the phenomenology of such disorders is not attempted here. Lewis' observations are unparalled in this area (Lewis 1934) and it is sufficient to say that the classical clinical features of melancholia are more commonly seen in hosptial practice. Whether these constitute an aetiological separation of such syndromes from what is seen in the community is difficult to resolve on the basis of research strategies available to us. It is also unclear whether the 'classical symptoms' of

psychomotor retardation, including stupor, depressive delusions, nihilistic ideation, somatic symptoms of depression and others are as common now as they were a few decades ago. Depressive delusions of guilt, for example, occurred in only 17 per cent of the in-patients and 8 per cent of the out-patient series which Wing et al (1978) examined, and the behavioural rating of slowness and underactivity was even rarer with only 9 per cent of the in-patients and no out-patients showing this feature. In a study by Paykel et al (1970), when symptoms of depression are scored on a 7 point scale, the mean rating for a group of in-patients with depression (n = 65) was 0.27 (range 0.3) for depressive delusions compared to 4.06 for depressed mood.

In a direct comparison of the characteristics of depressed patients (n = 220) treated in a range of treatment settings (community mental health centre out-patient, day hospitals and emergency clinics with in-patients) a number of differences emerged (Paykel et al 1970). Clinical symptom ratings were factor analysed and the factor scores of these ratings indicated that as the degree of hospitalisation increased the patient group were more severely ill and the clinical syndrome of endogenous depression became commoner. Hospitalised patients were also more likely to give a history of previous depressive episodes. 29 per cent of the in-patients and 17 per cent of the out-patients had a history of suicide attempts before the current episode. This was, as expected, much higher in those attending the emergency treatment service (36 per cent). Fahy (1974) in a study of a consecutive series of depressed in-patients showed that 43 per cent of hospital cases were admitted after acts of deliberate self-poisoning. Suicidal ideas (as rated in the PSE) were

highest in the out-patients (83 per cent), followed by in-patients (57 per cent) and least of all in the general population (14 per cent) in the study by Wing et al (1978).

In summary, therefore, this rather selective review suggests that there are clinical differences between those individuals identified as suffering from depressive disorder in general population studies and those depressives who seek treatment with hospital psychiatrists. On the basis of hospital derived thresholds of symptoms ratings and criteria for severity, the referred cases in general have more symptoms and in particular symptoms such as delusions, inefficient thinking, ideas of reference, guilt and retardation. Referred cases are also more likely to include individuals with suicidal ideation and/or history of attempted suicide prior to a referral. Community cases appear to have longer episodes of illness with the majority being ill for longer than one year. What these observations actually mean in terms of the boundaries of depressive syndrome or in aetiology and pathogenesis are unclear at the moment. One thing that is abundantly clear is that there is insufficient evidence to suggest the separation of depressions seen in treatment settings as qualitatively different. This would be particularly misleading given the heterogeneity of depressive disorders (Blumenthal 1971).

2. Demographic features

What is considered here are the differences and similarities between community 'cases' and referred cases in terms of sex, age, marital status and social class. Mention has already been made of such

associations with the dependent variable whenever relevant in the review of morbidity surveys. An attempt is made here to specify and contrast those associations and examine the robustness of these demographic trends in relation to both general population studies and in the literature pertaining to disorders referred to psychiatrists.

a) Sex

One of the few findings in the epidemiology of affective disorders where there is considerable agreement , if not a unanimity of views, is the increased risk of depression for women. The preponderance of women wherever the condition is studied and in whatever sub-group it is observed is quite impressive. The risk ratio between women and men has varied between studies but virtually all of them concede that there is a sex difference in the frequency of the disorder. This topic has been definitively reviewed by Weissman and Klerman (1977). Starting with the mental hygiene studies in Baltimore in 1936 (Lemkau et al 1941), nearly 40 studies in 40 years are examined by the authors and they are able to conclude that the female preponderance in rates is a real difference and not an artefact due to data collection, symptom reporting or treatment utilization. The difference between women and men is not explained by endocrinological or other biological factors nor by an excess of life adversity. The most satisfactory explanation put forward by the authors in that psychosocial factors associated with the role structure of marriage are crucial to understanding this inequality in rates between the sexes. An intriguing finding in this context is the absence, or at best, a reduced female preponderance in depression rates found in Asia and Africa. The study by Orley and Wing (1979) in rural Uganda

which made use of the PSE would seem to go against this impression. The female to male ratio for depressive disorders was 1.6 but if all the individuals diagnosed as depression are included (irrespective of age) the rates are more likely to be closer. In the recent community studies using standardised case-criteria the sex ratios for depression have been (female rate/male rate) 1.6 (Weissman & Myers 1978) 2.8 (Henderson et al 1981), 1.9 (Bebbington et al 1981), and 1.8 to 2.1 in the ECA studies (Myers et al 1984. In the ECA sample the ratio was similar at all sites and for all depressive categories examined. This not only parallels the preponderance of women in depression referred to psychiatrists but also the variability of such female excess.

b) Age

The effect of age on rates of affective disorder is variable. Comstock and Helsing (1976) in a short review have addressed some of the problems. The conventional belief in this respect is that 'reactive depressions' show a bimodal peak at 30 and 45 and that manic-depressive psychoses peak at a younger age with another peak in late adult life. One of the problems with interpreting data from hospital based studies is that there is often no way of assessing the age at first episode. Evidence from the Scandinavian studies of referred cases would indicate that at least for women the prevalence of both 'mild' and 'psychotic' depression increased with age, with a peak after 40 years and a decline towards 70 years (Essen-Moller & Hagnell 1961). On examining inception rates for manic depressive psychosis in Aarhus county, Weeke et al (1975) found a bi-modal pattern for women with one maximum in the age group 45-49 years and a

second peak thirty years later. Similarly, in the inception study of Adelstein et al (1968) there was a clear trend for depressive psychosis to increase with age with two distinctive peaks in the 30-39 age group and 40-59 age group. The study by Spicer et al (1973) based on national statistics of first admission showed that for women "neurotic depression" showed a peak at 20-25 followed by a rapid decline and psychotic depression increased with age and reached peak in 50-65 age group with subsequent decline in rates. The study by de Alarcon et al (1975) also specified an age-specific peak in mid-life for women. It is possible to conclude that if primary affective disorders are taken together the inception rates for women in treatment settings show a "roller coaster curve" (Adelstein et al 1968) with two peaks, one in the younger age group and a more substantial one in mid-life.

There is some congruence with this finding when results from community studies are considered. Hare and Shaw (1965) showed an increase in prevalence with age and Brown et al's (1975) findings from the first Camberwell survey seem to suggest such a trend. Weissman & Myers (1978) also showed an increase in rates with age reaching a peak at age range 35 to 45 years. Henderson et al (1979), by transforming General Health Questionnaire scores to "probability of caseness" showed a linear relationship with age, with the estimated case rate declining with age in females. This, of course, related to all disorders and so did the study of Bebbington et al (1981) where women had two peaks for prevlance rates (at 25-34 and 45-54). The findings from the first wave of the Epidemiologic Catchment Area (ECA) study are important because age specific six monthly prevlance rates are calculated for discrete psychiatric

disorders found in the community. Total prevalence rates (i.e. all categories of psychiatric disorder except phobia and dysthymia) show a clear predominance among women (and men) below 45 years. In fact the rates are about twice as high for persons younger than 45 years than for those 45 years and older. The ratio of 2:1 in the rates persists for two of the sites even after phobias are included. When affective disorders by themselves are considered the age distribution does not change significantly and shows the highest rate in age group 18-44 years.

What is apparent from the aforementioned is that there is no consensus of findings in relation to age in the general population. There is however nothing in these studies that militates against the findings of the hospital studies and in fact the trends among the general population samples (except for the Australian study by Henderson et al 1974) is in the same direction. An association with first onset or inception is more important than a trend picked up in prevalence surveys and therefore we can consider the ages 30-40 and 50-65 as crucial periods as far as aetiological studies are concerned. The lack of differentiation of affective pathology in some of these studies could account for their inconsistent findings.

c) Marriage

Both de Alarcon et al (1975) and Adelstein et al (1968) in their inception studies showed lowered rates for married women as described in detail earlier in this chapter. The latter study demonstrated that depressive psychosis inception rates were highest among widows while the married women had the lowest rates. Depression was more

common among single women in their thirties and this was the age group within which widows also had the highest rate. In the Chichester-Salisbury studies of Grad de Alarcon et al (1975) the referral rate for manic depressive psychosis increased with age for single women reaching a peak at 45-65 years. Married women (defined here as "ever married") had slightly higher rates than single women up to ages 35-40 and this was followed by a marked decline in the forties and a return to previous levels after 55 years. Married women had higher rates for neurotic depression, peak being in late twenties/early thirites. The results of the Samso study by Nielsen et al (1961) would appear to be inconsistent with the general findings of these two English studies in that they showed the highest rate was for separated and divorced women, followed by the married, and the lowest rate being in single women and widows. Two points that could have a bearing are that the English studies did not differentiate between separated and married women and that the Danish study was grouping together all diagnostic categories of depression. The Danish rates are also considerably higher than that reported in this country.

So, the relationship between marital status and onset of depression among women is not that of a clear-cut association. As with age, distinct relationships might exist for particular syndromes. For psychotic depression married women appear to be of lower risk and the increased risk of widows might be due to the association between bereavement and onset of depression. For non-psychotic depression married women tend to have a higher inception rate than women. But as with many other factors, the effects of marital status on hospitalisation (more likely for psychotic depression) are unclear.

If we turn to the community based studies the problems are of a different kind. There are, first of all, very few cases of psychotic depression in the community. On a dichotomous variable, currently married or not, there was no significant difference for current major or minor depression rates in the New Haven studies (Weissman & Myers 1978). In the study by Bebbington et al (1981) the widowed, divorced and separated women had higher prevalence rates with the married having the highest. Single women had less than one-quarter the rate of married women. A population survey using a representative urban sample carried out in Sweden (Halldin 1985) also showed that among women those married or co-habiting had higher rates at all levels of case severity than single women. Other community studies (Goldberg et al 1974, Henderson et al 1980) also show that divorced and separated women have a higher rate than married women with single women having the lowest rates. An exception to this is the study by Costello (1982) where a disproportionate number of single women had onsets of depression.

Since it is unlikely that those women predisposed to psychiatric disorder are more likely than others to get married, it can be assumed that married state somehow makes them more prone to developing psychiatric symptoms. The contribution of other factors associated with married state such as a poor relationship, children at home, the reduced changes of gainful employment, etc. could account for the higher rates among these women. The lower admission rates for married women may also be explained on this basis.

d) Social class

Social class is perhaps the most widely studied social variable in relation to mental illness (Goldberg & Huxley 1980). These authors correctly point out that the confused picture of the relationship between psychiatric disorders and social variables which emerges from the literature is due to the fact that studies have used different status measures as well as different concepts of what constitutes a psychiatric case. Powerful selection procedures which determine hospital admission or referral to mental health services could have a more significant impact on the demonstrated association between social class and illness than on other independent variables. Studies by Hollingshead and Redlich (1953) showed how social status is a crucial determinant of treatment inception as well as the type of treatment received.

Bagley (1973) in his review of social class and depression has effectively challenged the older view that depression was commoner in higher social class. It is argued that because of the influence of social position on the referral process and even identification of psychiatric disorder as requiring a specific kind of treatment, study of referred cases are bound to lead to erroneous conclusions in this area. Hare's study of first admissions to mental hospitals in Bristol showed a significant association between affective psychosis and Classes I & II (Hare 1956). Brooke (1959), in her review of national statistics, found an excess of "depressed" patients in both the highest and the lowest social classes. Adelstein's study in Salford (1968) concerned with first inceptions into psychiatric care showed that depressed patients tended to be predominantly from lower

social class. The results referred only to men and equivalent data on women were not available. It is this kind of variation that leads Bagley (1973) to consider the likely artefacts of hospital based studies. He concedes that a narrow category of manic depressive psychosis might well be associated with higher class but evidence for an overall class association was thought to be lacking. Dohrenwend et al (1980) have listed all the true prevalence surveys since 1950 which have estimated disease rates according to social class. The vast majority of such studies concerned with 'total psychopathology' show a higher rate in the lowest class. The same trend is shown in studies of psychoses and neuroses.

In more recent community studies an inverse relationship between social class and depression is suggested (Warheit et al 1973, Brown et al 1975). Warheit et al (1973) on the basis of 1,645 interviews obtained from a random sample and the depression scores (elicited through specific questions) were analysed using multiple regression and according to age, race, sex, annual income, education and a general socio-economic status score. Socioeconomic status emerged as the most important variable although the data had indicated higher prevalence rates among blacks, the aged, women and the poor. Taylor and Chave (1964) and Hare and Shaw (1965) in their studies in new housing estates had shown no relationship between symptoms and social class, although in both studies class variable was restricted in range.

Another problem in the interpretation of any association between social class and affective disorder is pointed out by Bebbington (1978). He demonstrates on the basis of national statistics that

intraclass variability in admission rates sometimes greatly exceeeds the between-class variability.

The usefulness of statements about associations between demographic-type variables like social class and psychiatric disorder, according to Brown et al (1975), is somewhat questionable. They suggest that correlation between class and rates of psychiatric disorder are not sufficient and that such statements are simply used as a vehicle for speculation about causal processes. What is required is a search for causality or meaning in such associations.

In summary, there is conflicting evidence on the association between these demographic factors and affective disorders. Studies of hospital treated cases are clearly selective and introduce considerable bias into any relationship that might exist because of factors that facilitate or reduce the changes of being referred to hospital. It is very likely that the effects of age, sex, marital status and social class interact in a complex way. The possible consequence may not be in the expected direction all the time. Taken singly, the current evidence suggests that being a woman, in the Western society at least, certainly increases the risk of depression. Hospital and community studies are both in agreement here. There is also some consensus in that age specific rates of depression in women follow a bimodal pattern with an excess in the twenties and the thirties followed by a second peak in mid-life. The findings on the relationship between marital status, social class and depression is more open to criticism although in community studies there appears to be a robust relationship between lower social class and psychopathology.

The relationship between affective disorders and other readily measurable demographic factors such as race, urbanicity, employment status, and family history have also been investigated with vigour by generations of psychiatrists and such studies have also led to a diversity of conclusions and interpretations. Such factors are not considered in detail because they are not germane to the work described in this thesis.

3. Adversity and affective disorder

The increasing recognition of the inability of physiochemical factors to fully explain the occurrence of many diseases, mostly chronic conditions with a high prevlance in certain societies, has led to a search for new categories of environmental factors potentialy capable of producing disease (Cassell 1974). This has stimulated a re-appraisal of the prevailing aetiological approaches in the study of major physical illnesses such as cancer and heart disease and the study of mental illnesses has been revolutionised by this shift in focus. At the ecological level, the association between particular social structures and particular patterns of ill health is well documented although the consistent failure of social scientists to understand the process which underlies such a relationship has further necessitated the need to seek new formulations, especially at the individual level. The life-event approach, "one of the great issues of Twentieth Century Psychiatry" (Paykel 1978) has therefore an attraction that is both intuitive and also based on a theoretical model that promises greater

understanding. The stress hypothesis with its history of such seductive influence over the imagination of medical researchers over a period of half a century has been harnessed by the possibility of more reliable and valid measurement and a specific causal mechanism through the life event approach and this has introduced a new dimension into the classical epidemiological triad of agent-host-environment.

Psychiatric epidemiologists have been keen to seize on this opportunity and examine the dependent variable in relation to life-events as an index of 'stress'. The study of affective disorders, perhaps more than any other condition, has been the major setting within which these ideas have been nurtured and allowed to find full expression with the resultant gains and contradictions.

There is a vast literature on the relationship between life events and affective disorders. Both methodological issues and substantive findings have been the focus of major reviews (see, for example, Paykel, 1978; Lloyd 1980, Susser 1981, Paykel 1978, Rabkin & Struening 1976, Tennant et al 1981, Paykel 1983). The literature that is considered here is faily limited in volume as only those studies which are pertinent to the question of whether there are major differences in the findings of life event studies of depression in treatment settings and general population samples are reviewed. Inevitably there are questions concerning methodology and measurement and these are recognised but not explored in detail.

The association between bereavement and onset of depressive disorder has been predicted, demonstrated and is now firmly established in

psychiatric literature. Before empirical studies confirmed such a link there were many convincing theoretical positions, from a variety of perspectives which informed and stimulated such research. Influential studies in this area have been carried out by Parkes (1964), Birtchnell (1970), Clayton et al (1972) and more recently Briscoe & Smith (1975) and Frost and Clayton (1977). All these studies were based on samples drawn from treatment settings and they sought to demonstrate that patients with depression had an excess of bereavement or separation events than non-depressed controls. The range of such events was gradually enlarged to include 'losses' of various kinds, including 'symbolic loss'. The inclusion of multiple stressors under this variable and the application of such a model in the study of psychiatric illness was an inevitable next step. Another strand that went into making the association between 'stress' and acute psychiatric symptoms more discernable was studies such as that of Lindemann (1944) which impressively demonstrated the psychiatric consequences of major natural disasters. The publication of a reliable instrument to measure such stressors (Holmes & Rahe 1967) - "a quantum leap forward" (Paykel 1983) gave impetus to a proliferation of studies and they were also informed by parallel demonstrations of the inter-relationship that existed between social environment and mental illness. Studies by Rennie (1942), Fox (1942) and others had prepared the ground for such work and were devoted to clarifying the relationship between life-situation and manic depressive psychosis. These two studies, using varying definitions of adverse life situations and measured unsystematically, found that more than three-quarters of 208 manic-depressives (Rennie 1942) and less than one-quarter of 400 manic depressives (Fox 1942) had disturbing life experiences which led to the onset of episodes. A

study by Parker et al (1959) reported that about 23 per cent of their sample, diagnosed as 'manic depressive reactions' had 'exclusively external precipitants' for their episodes. Cassidy et al (1957) were much more parsimonious in the conclusions that they drew from a study of 100 manic-depressive patients of whom 50 had reported an event that they thought was related to the onset of their disorder. The authors, however, felt that this was an overestimation and they suggested that in only nine of their cases could the events have "caused" the illness episode.

Following these early uncontrolled studies, there have been a number of controlled studies concerned with the relationship between life stress and affective disorders seen in treatment settings. These studies, however, differ quite markedly among themselves on methodology and design and often conclusions drawn from each of these studies do not allow easy generalisations. The control groups used have been :

(a) other medical or surgical patients

(b) other psychiatric patients or sub-categories of depression, and

(c) samples drawn from the general population.

The study by Forrest et al (1965) compared a group of 158 'depressive patients' (48 out-patients and 110 in-patients) with 58 controls drawn from a general hospital where they had been admitted for a variety of medical conditions. Patients were not included in the latter group if the treating physician felt there was 'obvious psychiatric symptomatology'. Controls were not matched on any specific factor. A selected list of life events (environmental factors) covering a period of 3 years was used during clinical

interviews. 88.6 per cent of the depressives and 72.4 per cent of the controls had one or more of these environmental factors within three years of "the key hospitalization or referral" but the difference did not reach statistical significance. Psychiatric patients also had an excess of childhood bereavment and social stresses in the previous 3 years, but they did not differ from the control group in recent bereavement.

Hudgens et al (1967) also used hospitalized medical patients as controls. 34 depressed patients and 6 manic patients were chosen on the basis of specified clinical criteria from a group of psychiatric in-patients. 40 individually matched controls were chosen from the medical in-patients provided they had no current or previous psychiatric illness and no history of excessive alcohol intake. Matching was done with respect to sex, marital status, age within four years, race and cost of hospital accommodation. Life event information was obtained through a standardized, clinical interview and covered a wide range of subjects. Groups did not differ in remote or recent loss events or non-psychiatric illness but the affective disorder group reported more interpersonal conflicts and showed an increased frequency of residence changes. 25 per cent (10/40) of this group had experienced an event before the onset of their disorder, eight others had some symptoms before an event but developed a full blown episode only after the event. The authors concluded that when affective disorder began soon after a stressful event, the temporal relationship reflected only a chance occurrence while if an event occurred during an episode it often brought on a worsening of symptoms and a decision to seek treatment.

The same group extended their study subsequently to include 100 patients and 100 controls (Morrison et al 1968) and this time, in the patient group, they had included nine other diagnostic categories in addition to primary affective disorder (n = 40) who constituted the study sample in the earlier investigation. Their conclusions were again inconsistent with the notion that psychiatric illness could be distinguished from 'non-psychiatric illness' on the basis of the life experiences they had chosen to study.

These two studies, one from Scotland and the other from North America, would both appear to suggest that affective disorders were not more likely to be associated with life adversity when compared with patients hospitalised for physical disorders. The major reservation with both studies must be the choice of the control group. It is by no means certain that clustering of life events do not occur prior to the development of physical illness and hospitalization. On the contrary, a number of studies have strongly suggested a positive association between physical disorder and life adversity (see, for example, Goldberg & Comstock 1976, Theorell et al 1975, Cline & Chosy 1972, Kasl et al 1979, Mayer & Haggerty 1962. Also, Murphy & Brown 1980, Brown 1981). Therefore a failure to distinguish between physical illnesses and psychiatric disorders (affective disorders) on the basis of life events does not by itself indicate a lack of such life adversity in affective disorders. There are also other methodological pitfalls in both studies mentioned. Forrest and colleagues did not measure life events prior to the onset nor was there a systematic attempt to exclude those with previous psychiatric conditions from the control group. The time period covered was lengthy (3 years) and only three types of stresses were examined.

Hudgens et al (1967) deliberately excluded psychiatric in-patients if they had developed transient, nonsustained mood changes in response to undesirable stresses and whose symptoms had cleared in a few days if the stresses were removed. This obviously restricted their diagnostic category.

The study by Thompson & Hendrie (1972) also included medical controls. The patients that they chose were 74 consecutive admissions with primary depressive illness (manic depressive depression (n = 27), involutional psychosis (n = 5), psychotic depressive reaction (n = 13), reactive-neurotic depression (n = 29)). 37 members (or friends of) the staff and 22 patients with polyarthritis were the age and sex of matched controls. Life change scores, on the basis of the 43-item Social Readjustment Rating Scale and a 5 point self-rating scale, assessed over a period of one year (prior to onset in the affective disorder group) showed that the patient group had experienced higher mean ratings than either control group. One further interesting finding was that among the depressives the distribution of stress scores was unimodal although reactive depressives had higher scores than the psychotic group. The authors concluded that life events were important in the genesis of all depressions. A positive family history of depression did not have a significant relationship to the life change scores, but the finding of Forrest et al (1965) that bipolars had lower pre-onset adversity scores was confirmed to some extent.

The next group of studies sought differences in life event quality or frequency among depressed patients subdivided according to clinical or outcome criteria. In some, control groups were not used but

longitudinal information on the course of the disorder was obtained.

Paykel and Tanner (1976) followed up women after recovery from depressive illness and assessed the occurrence of life events while they were receiving maintenance therapy with amitriptyline and psychotherapy. 30 patients who relapsed had experienced significantly more life events and they also reported more undesirable events in the 3 months preceding their relapse when compared to 30 matched patients who remained well. What is of interest in the context of this review is that the excess life events in depressives is not specifically associated with onset (or first onset) of illness but also increases the chances of relapse.

The study by Cadoret et al (1972) was concerned with 100 consecutive admissions with a diagnosis of unipolar depressive illness who fell into two sub-categories :

(1) those with an onset before the age of 40 years and with a family history characterised by sociopathy, alcoholism and a preponderance of affective disorder among women and

(2) those with a late onset of depression (after 40 years) and with affective disorder in both male and female relatives.

They were in turn compared with a control group of 51 well relatives, matched for age and sex. Using a structured interview with nine items (three of which enquired about events or difficulties in the preceding six months or year) they found that the patients had an increased frequency of events. The authors however were not prepared

to accept that this indicated a causal relationship. They showed that a causal relationship existed in only 12 patients at most and the majority of these (11 out of 12) were early onset depressives. The early onset group also had more personal losses or threats of loss than late onset depressives and it was suggested that such events were precipitating factors of the illness. The bias introduced by the age difference and the choice of relatives as controls (both probably having an influence on measured life events) is not considered in detail in this paper. It is also likely that having relatives with alcoholism or sociopathy will increase the chances of experiencing adverse life events. The categories of patients excluded by these authors might also have had an influence on their findings. For example, they omitted those patients who had a personal illness and others who had lost a close relative prior to hospitalization. The approach they used in eliciting life events meant that events occurring before the age of 16 were combined with more recent adversity.

Thirteen patients with 'endogenous' depression were compared with 27 patients with 'non'endogenous' types of depression by Leff et al (197Ø). The study was based on repeated clinical interviews with patients and relatives and information from notes and tapes was subsequently selected to provide measures of life adversity. Notwithstanding the systematic bias thus introduced, the authors found that on average four 'environmental stresses' were reported by these patients prior to "the point of breakdown in functioning". "Threat to sexual identity" and "changes in marital relationships" were the most frequent of such stresses. The endogenous group was thought to be independent of the presence of environmental factors

although the authors failed to reveal differences between endogenous and non-endogenous groups either in the incidence or the type of stressful events involved. The value of this study in coming to any firm conclusions about the role of life events in the onset of depression is rather limited. It was an impressionistic attempt which did not use any systematic, standardised measures of variables, there was no clear delineation of onsets, event count was based largley on self-report, control groups were not used (although an attempt was made to see how many among the spouses suffered psychiatric illness) and the information was collected by repeated interviews over a period of up to 2 years.

A study that used rigorous diagnostic criteria and a reliable technique of life event assessment was conducted in Denmark (Benjaminsen, 1981). Despite the slightly misleading title of the paper, this study was concerned with a comparison of neurotic and non-neurotic depressives consecutively admitted to hospital. There were 89 subjects who all met Feighner criteria (Feighner et al 1972) for probable or definite depressive disorder (with one modification of the criteria - duration of at least 2 weeks instead of a month) after excluding secondary depressions due to organic brain syndrome, schizophrenia and substance abuse. Patients with a history of affective disorder in the twelve months prior to onset were also excluded. These patients were further sub-divided according to well-specified diagnostic criteria into non-mutually exclusive categories of :

(1) endogenous depression

(2) psychotic depression

(3) incapacitating or severe depression

(4) primary depression, and

(5) self-pitying depression.

Life events were assessed in the six months before the onset using the 61-event Paykel's scale of life events (Paykel et al 1971). For three main classes of events (severely upsetting events, undesirable events and severe losses) there was no significant difference according to age or sex. The vast majority of patients had at least one stressful event falling into one of these classes. For example, 91 per cent of the non-endogenous group and 81 per cent of the endogenous group had at least one 'undesirable event' in the six months prior to episode onset while the proportions for 'severe losses' in the two groups were 65 per cent and 57 per cent respectively. 40 per cent of the non-endogenous group and 19 per cent of the endogenous group had at least two events in the 'severe loss' category.

The author's failure to distinguish between 'endogenous' and 'non-endogenous' groups in terms of antecedent stressful life events is in keeping with other systematic investigations which have addressed themselves to this issue. The study by Forrest et al (1965) which did not discriminate between the two groups in terms of adverse social factors in the 3 years before admission, the papers by Leff et al (1970) and Thomson & Hendrie (1972) which similarly could not distinguish the two groups and their findings have already been mentioned. Paykel and his co-workers have further elucidated this issue (Paykel et al 1971, Paykel 1979). The association between stress scores (total stress score and score on the single event with

greatest weight) and factor scores derived from a principal component analysis of symptoms alone was investigated. The second factor (a bipolar factor) contrasted endogenous and neurotic depression and although endogenous depression reported significantly less total stress than neurotic depressives the correlation was weak. When the effect of age was partialled out, the correlation was not significant. On the basis of a cluster analysis procedure one psychotic and three neurotic types of depression were found by Paykel, but the association between stress and type of depression was weak (Paykel 1979). A more recent study by Paykel and colleagues (Paykel et al 1984) also seemed to indicate an assocation between life events and symptoms reflecting the endogenous-neurotic distinction. This association was relatively weak and the authors noted that this may have been because only depressed out-patients were studied.

A recent series of papers by Perris (Perris 1984) also examined some of these issues. The study sample consisted of 204 consecutively referred cases of depression so classified by a number of operationally defined criteria. Using a standardised Life Events Inventory (LEI) events occurring in a period of 12 months prior to the onset were determined and categorised according to desirability of event occurrence, controllability of events when they occurred, whether the event constituted an 'entrance' or an 'exit' whether it was indicative of 'conflict' in a social relationship, whether it represented 'object loss' and finally whether it could have been a consequence of the illness itself (independence or fatefulness). 40 per cent of men and 47 per cent of women had no events in the three months before the onset but only 4 per cent of patients were free of

events in the preceding year. Older patients appeared to have had significantly fewer life events in the three months before onset and this was true for all negative events. Neither the average number of events nor the negative impact of events distinguished groups of patients according to the two indices of severity used, namely in-patient/out-patient status and psychotic/non-psychotic symptomatology. However there was some evidence that neurotic-reactive depression was associated with more pre-onset independent events when compared to the non-neurotic group but this difference appeared to be due to age differences.

This study did not have a control group and many of the patients included in the study had been in treatment for some considerable period of time. It is also not clear whether the patient group included recurrences as well as onsets and what the extent of bias maintenance treatment might have introduced into the selection of the study sample. Life events although assessed using a standardised technique were rated according to the subjective evaluation made by the patients themselves. In any case, the study is further confirmation of earlier findings that clinical stratification of patients according to symptomatology does not demonstrate an increased risk of life events with any particular sub- group, especially when the confounding effect of age is taken into account.

Without the use of a control group it is difficult to estimate the strength of association between life adversity and onset of affective disorders. Use of hospital controls or other special groups such as patients' relatives is likely to introduce distortions as previously explained. In the causal investigation of any disease, the most

adequate choice of controls would be those who do not have the condition and are not at increased risk of developing it either. The attractions of general population samples in this context are therefore obvious and a number of studies investigating an association between life events and depression have employed such a strategy. More recently, the use of 'cases' found in the general population (but not in psychiatric treatment) have also been used to compare referred patients with a similar diagnosis to understand the specificity of association between life events and the onset of disorder. Such studies which have used general population samples are considered next.

The first case-control study which used a general population sample was by Paykel et al (1969). 185 depressed patients drawn from a variety of treatment settings (in-patient, out-patient day hospital and emergency clinics) were compared with an equal number of individuals selected from the general population and marched for age, sex, marital status, race and social class. By using a list of events based on the Holmes-Rahe inventory and collecting life event information by semi-structured interviews covering a period of six months prior to the onset of depression (for patients) and an equivalent time period for controls the authors demonstrated an increased frequency of a variety of events among the patients. These event classes included marital arguments and separations, change in work conditons, serious personal illness, bereavement of close relatives, family members leaving home and serious illness among family members. They found that both exit events and undesirable events were more frequent among depressives. In a subsequent paper (Paykel 1978) it was reported that by using the epidemiological

measure of the strength of association, i.e. relative risk, these depressed patients were at an increased risk (relative risk 5.4 for all events, exit events 6.5 and undesirable events 4.Ø).

Brown et al (1973a and b) also used a random community sample as controls in their Camberwell study. 114 depressed women (73 in-patients and 41 out-patients) who were consecutive referrals to psychiatric services and had an onset within one year formed the study sample. The control group was 152 women drawn randomly from the general population. Life event information for a year prior to onset (or interview in non-cases) was obtained using a detailed interview and events thus obtained were categorised on a number of dimensions. 51 per cent of patients compared with 16 per cent of the community sample had at least one event in the three weeks prior to onset (or interview). The event rate was over three times higher in the patient group than among those in the control group, after excluding from the latter all those with significant psychiatric symptoms. The rate of events was very much the same for the two groups outside the three weeks period. However, when only markedly threatening events were taken into consideration, a different picture emerged with patients showing a greater frequency of such events in the whole 12 month periods than controls. Forty-two per cent of patients had at least one markedly severe event in the period before onset (which was on average 38 weeks) while the proportion having such an event in the community was only 9 per cent. The relative risk derived from these figures was 5.5 for all events in the three week period and 5.9 for markedly threatening events in the preceding

six months (Paykel 1978). These estimates are close to the New Haven figures for exits and undesirable events (Paykel et al 1969).

Glassner et al (1979) compared an American working class bipolar sample (n = 25) drawn from in-patient and day-patient facilities in New York with 25 randomly chosen community samples matched for sex, race, class, age and area of residence. Life events were obtained through histories given by the respondents and clinical notes and, in addition, SRS scale (Holmes & Rahe 1967) administered to the controls. First hospitalization was taken as a good indicator of onsets and it was shown that at least 75 per cent of cases had a stressful life event (severity based on self-report and if such events appeared on the SRS scale) in the year prior to onset, and in most of them such events occurred within 2 weeks before hospitalization. In 56 per cent of the cases these events were associated with 'major role losses'. In comparison, only 16 per cent of the control group had experienced events with 'role loss'. These findings, preponderance of events within a few weeks of onset/admission and the majority of such events being considered as leading to personal loss (similar to exits in Paykel et al (1969) and markedly threatening events according to Brown et al (1973)) are consistent with earlier studies. The methodological drawbacks (like the lack of a standardised procedure to elicit life events, the approximation of onsets to first admissions) and the difficulties in generalising from these findings (only working class subjects) not withstanding, the conclusion that the authors draw that bipolar affective disorder, like the mostly unipolar group studied by Brown et al (1973), show a relationship between life adversity and onset of

episodes gives further substance to claims that the affective disorder category cannot be sub-divided according to aetiologically specific symptom constellations.

The results of a study from an urban setting in Kenya (Vadher and Ndetei 1981) is also in keeping with current consensus that hospitalized depressives tend to have more life events and are characterised by stressful events when compared to non-depressed individuals chosen from the community. 30 patients with clinical depression (15 out-patients and 15 in-patients) from consecutive referrals were chosen. All were first inception cases and using the Bedford College Life Event Rating Schedule (Brown & Harris 1978) stresses occuring over a period of 12 months prior to illness onset were assessed. 67 per cent of the patients compared with 8 per cent of the controls had experienced at least one severe event in the year prior to onset. No information on recency of events or event rates is given. This figure of 67 per cent (of patients with at least one pre-onset severe event) is, as the authors point out, strikingly close to the 68 per cent figure obtained by Brown & Harris (1978) in their study of depressed women in the general population in London.

The study by Fava et al (1981) from Padua, Italy also confirms such a trend among referred cases of depression seen in an out-patient clinic. The patient sample in this study consisted of 40 consecutive out-patient referrals all meeting the Research Diagnostic Criteria for major depressive disorder. They were all primary depressives (Feighner et al 1972) in their first episode of depressive illness with duration of symptoms not more than 3 weeks (acute episodes). Life events were derived from Paykel's long list - the revised

interview for Recent Life Events (Paykel et al 1980) and this was administered as a semi-structured interview. 40 hospital employees matched for age, sex, marital status and social class acted as controls. The time period covered was six months. There were significant differences between the patients and controls in a number of categories of events reported, including exit events (45 per cent of patients and 20 per cent controls) undesirable events (85 per cent patients and 53 per cent controls) and uncontrollable events (73 per cent patients and 30 per cent controls). Comparison made on the basis of 'objective negative impact' of events showed that the patients reported such events 2 or 3 times more frequently than controls. Again, the similarity in findings with an earlier study which used similar methodology (Paykel et al 1969) but set in a different culture was impressive.

The most recent study investigating the relationship of depressive illness seen in hospital settings to pre-onset life events and using 'normal' controls comes from the United States (Roy et al 1985). 40 patients met the criteria for major depressive episode (DSM III) with no concurrent or previous other psychiatric illness. 20 of them met additional criteria for melancholia. 41 normal controls were declared free of current or previous psychopathology on the basis of interviews with the Schedule for Affective Disorders and Schizophrenia (SADS) (Endicott & Spitzer 1979). Life events were obtained over a period of six months (pre-onset for patients) using Paykel's 64-item revised Recent Life Events Interview (Paykel et al 1980). In keeping with other studies it was shown that the total group of depressed patients had experienced significantly more life events than normal controls and this difference persisted when

the 'objective negative impact' of the events was rated blindly. The majority of events were 'independent' of the illness. When the total number of events in each sub-group was taken separately it was shown that the total depressed group as well as those without melancholia had experienced significantly more events than a sub-group of normal controls age- and sex-matched with the non-melancholic group. The difference between these controls and the melancholic group was not significant. It is the total number of events that is compared here and not the proportion of patients with events. When the proportions of such cases with one or more events are considered it is obvious that in patient sub-groups a greater number of individuals had experienced both undesirable and exit events. In fact, for the last category, 20 per cent of the melancholics and only 5 per cent of the non-melancholics had experienced an event while less than 5 per cent of normal controls had a similar event. Although the general conclusion that the authors appear to draw from their study is that melancholia is less likely to be associated with events than non-melancholics such a finding must be interpreted more cautiously given than in certain categories of events the melancholics are over-represented and also because of the methodological drawbacks as pointed out by the authors themselves.

The various methodological and conceptual problems in this complex area of psychiatric research are already mentioned and commented upon in this review. The problems of measurement and the absence of appropriate control groups which had beset the earlier studies have largely been avoided if not totally resolved by more recent studies. The advent of reliable interview based instruments of apparent construct validity has been the most significant advance in this

area. Appropriate selection of patients using well defined diagnostic criteria and the exploitation of case-control designs have also contributed to the confidence with which findings of the studies can be accepted as not artefactual. Various attempts at specifying and delineating the kinds of events that are aetiologically important, at a conceptual as well as an empirical level, are beginning to add to the confidence with which new research is being undertaken. There is a general consensus of opinion that life events or life adversity is associated with onsets of affective disorder perhaps in a causally significant way. Most of the recent studies as discussed above from a variety of settings, appear to replicate such findings. Certainly, coherent theoretical explanations of this association are not wanting and studies are also beginning to look at how these factors actually mediate psychiatric illness at the individual level.

The major problem in this area still remains (as with many other aetiologically significant factors proposed in psychiatry) one of specificity. As Susser (1973) has pointed out, the absence of a high degree of specificity does not by itself rule out a causal association. In fact, further refinement of variables (events as well as illness) has led to studies showing some improvement in this area. However, there is another kind of problem associated with specificity. Paykel (1978) for example has drawn our attention to the fact that the events that usually precede the onset of the illness "are not such major crises as death, life threatening illness or financial ruin but rather more common (although serious) domestic disturbances such as interpersonal arguments, etc." Also, the impressive results of case-control studies ignore the base rates for

illness in the population. Since the frequency of events as measured in the context of studies of affective disorder are not uncommon in the general population the question concerning the occurrence of such disorder in the base population will go some way towards dealing with the question of specificity.

Another obvious attraction of studying life events and their relationship to illness onset in the general population setting is that one would be able to consider any such association that might exist without the distorting influences of social, psychological and nosocomial factors that are peculiar to the process of hospital referral and admission. The possibility first pointed out by Berkson (1946) - the famous Berksonian bias - namely that a spurious association could be obtained between diseases or a characteristic and a disease because of the different probabilities of admission to a hospital for those with the disease, without the disease, and with the characteristic of interest - is as relevant to the study of affective disorder and life events as it was for understanding mortality rates from tuberculosis a generation earlier. The differences in hospital admission rates may thus conceal an association that actually does exist or, as is more likely, exaggerate a trend that is hardly significant.

In fact, there have been a number of population studies where the life event approach is utilised and results from such studies are of interest in this context. The theme that is dealt with in some detail here, however, is one of how disorder as identified in the general population setting compares with those studied in treatment settings with reference to pre-onset life adversity. Unfortunately,

arguments which bear on this particular issue are already polarised (see, for example, Bebbington et al 1981, Brown & Harris 1982, Bebbington 1984) and certain lines of controversy have already been well established. The major argument in this area is that depressive disorders seen in treatment settings are on average more severe than that found in community samples and their relationship to adversity less clear cut. Underlying this position is the notion that "this difference (in the relationship to adversity) supports the suggestion that disease theories are more likely to be required to explain the occurrence of the more severe affective disorders, whilst less severe disorders often have a ready explication as understandable and unmysterious responses to adversity" (Bebbington et al 1981).

In the Camberwell study by Brown & Harris (1978) 61 per cent of the referred patients (n = 114) and 68 per cent of the onset cases in the community (n = 37) had at least one severe event before onset compared to 20 per cent of normal women (n = 382) in a comparable 38 week period before interview. Bebbington and colleagues from their general population study (Bebbington et al 1981) characterised those who were 'cases' according to lay-interviewers along with those who achieved this status at a recall interview by psychiatrists (broad definition) and only those who were designated cases at a recall interview by psychiatrists (narrow definition). They added an out-patient sample of 65 patients with affective disorder to this group. Among women, 18 per cent of the 'acute patients' (n = 33) and 32 per cent of acute cases (broad definition, n = 37) in the community had one or more severe independent event in the 3 month period before onset compared to 9 per cent of normal women (n = 110) in the

community. When a narrow definition was used 9 out of 19 (47 per cent) acute cases and 12 per cent of 115 normals had such an event. These discrepant findings, the difference between community cases in the proportions with pre-onset adversity and a similar difference between referred cases in the two studies and the clear suggestion in Bebbington et al's (1981) findings that "... patients (fall) midway between cases and non-cases in their relationship to life events occuring in the preceding 3 months", could not all be explained as an aberration brought on by methodological diversity. They were, of course, definite sources of bias as Brown & Harris (1981) have pointed out. The Bedford College team looked at life events on an average of 38 weeks pre-onset while the MRC team considered only 3 months prior to onset in their analysis. There were differences in severity ratings. Similarly the definition of the dependent variable was different in the two studies. As far as severity of disorders were concerned, Bebbington et al (1981) reported that only 14 per cent of the combined group of cases and patients with CATEGO class D or R (considered as most severe) had an independent severe event or chronic difficulty prior to onset while 56 per cent of class N and a similar proportion of Class A had adversity so defined. Brown & Harris (1982) contended that their community cases had symptoms essentially similar to those seen in out-patient clinics (Finlay-Jones et al 1980).

Katschnig (1984) has provided data that has a bearing on this argument concerning severity. On the basis of a reanalysis of his study of referred cases in Vienna, Katschnig showed that 18 per cent of CATEGO class N (4 out of 22) and 24 per cent of CATEGO class R or D (18 out of 75) had at least one independent severe event or chronic

difficulty (using the same criteria as Bebbington et al (1981) employed) in the three months preceding onset.

4. Early parental loss and adult depression

Early parental loss has long been claimed as a risk factor in adult depression. The theoretical basis for this notion is derived largely from early psychoanalytic literature and in particular from Freud's "Mourning and melancholia" (Freud 1917). It is likely that the survival of this idea owes more to the intuitive attraction and continuing popularity of the theory than to findings from empirical studies in this area. As a host of recent reviews have shown, the conclusion of such studies are at best inconsistent and often contradictory (Lloyd 1980, Tennant et al 1980; Crooke & Eliot 1980, Orvaschel et al 1980). The aim of this limited summary is to consider whether parental bereavement, if it is a risk factor in adult depression, shows a variation of association between depressives distinguished by severity or by the setting (hospital or general population) within which they are found.

Up to the late fifties, studies in this area were fraught with major methodological problems. Gregory (1958) in an influential review had specified the nature of these difficulties and in particular he drew attention to the choice of inappropriate control groups. In the following decade both Dennehy (1966) and Granville-Grossman (1968) were to echo these comments as well as to point out that factors which influenced adult mortality rates such as social class were not controlled for in many of the empirical studies.

Felix Brown's study (Brown 1961) was one of the earliest controlled studies in this area and he provided some indication of the incidence of parental bereavement in both psychiatric patients and general population. Parental bereavement before the age of 15 was found in 41 per cent of a group of 216 depressed out-patients and 12 per cent in the general population based on census figures on orphanhood. Subsequent studies critically reviewed by Crook & Eliot (1980) and Lloyd (198) show an impressive divergence in their findings. Most indicate a higher incidence of parental bereavement before the age of 15 in referred cases of depression but when age and social class are controlled for, the difference between 'depressives' and controls become largely insignificant. The confounding effect of social class can be inferred from a recent study by Birtchnell & Kennard (1981). A series of middle-aged women (age 40 to 49) who had experienced maternal death before the age of 11 (selected from general practice lists in the South of England) were compared with age-matched psychiatric patients who had similar experience of maternal death (sample from North of Scotland) and who had their first psychiatric illness before the age of 40. The authors found that the parental social class and current social class distribution of the non-patients were significantly higher.

The two early studies by Forrest et al (1965) and Hopkins & Reed (1966) which differentiated the depressive group into manic-depressive illness and other depressive disorders seemed to indicate an excess of parental death in the latter category. The first of these two studies has been discussed in some detail under the section on life-events. The main finding of this paper in relation to

parental bereavement was that 35.1 per cent of 158 patients considered depressed compared with 17.2 per cent in 58 general hospital patients had experienced parental death before the age of 15. None of the 11 manic-depressives in the depressed had lost a parent in childhood. Hopkinson & Reed (1966) collected information on childhood environment in a group of 216 manic-depressive patients in Manchester and compared it with data from Brown's study (Brown 1961) which was concerned with "deliberately undifferentiated depressive illness" and controls. Although the age or social class distributions of the samples were not the same the authors concluded that early parental death was not of aetiologic significance in their cohort. But as Dennehy (1966) had suggested in her population studies, the difference could have been due to the higher rate of orphanhood in areas of London compared to Manchester. Conclusions similar to that of Hopkinson & Reed were also drawn by Gay & Tonge (1967) in a study of 444 psychiatric in-patients from six diagnostic categories. Comparisons between 'endogenous' and 'reactive' or 'psychogenic' depressions could have been influenced by other differences such as age and social class which were not controlled for in this study. The importance of age and sex in such comparisons is obvious from the study of Gregory (1966) who looked at data relating to 1,000 psychiatric patients. After adjustments for age and sex, no differences were found between diagnostic categories, including affective psychoses and neurotic depressive reactions.

It is interesting (and somewhat puzzling) that while studies concerned with diagnostic sub-categories of depression have appeared to suggest an excess of childhood parental death in 'neurotic' or 'reactive' depressions when compared to 'manic-depressive illness',

similar studies but differentiating the depressions according to 'severity' have found an increased incidence in the more severely ill group. In a study by Beck et al (1963) for example, 27 per cent of those identified as severely depressed by a standard self-report inventory had experience of childhood bereavement while only 12 per cent of those with less symptomatology had a similar experience. This difference was highly significant ($p < 0.01$). When only clinical criteria were used to categorise severe and mild groups the difference persisted but on partialling out the effects of age, this difference was of much more modest proportions. Apart from lack of control for social class the study could perhaps be faulted, in the context of present discussions, for including all psychiatric patients irrespective of diagnosis, in the comparison of severity of depressive symptomatology. Munro's study (Munro 1966) which controlled for the effects of several variables including age and social class did not find any difference in the incidence of childhood bereavement between depressives and medical controls but his results appeared to suggest that in the depressed group there was a tendency among severe depressives to have a greater incidence of bereavement in childhood when compared to moderately ill patients. Birtchnell (1970) also compared the incidence of parental death before the age of 20 among 231 depressed in-patients with an age-matched group of 214 non-depressed in-patients. As in Munro's study which used medical controls, this study also failed to find an excess of childhood bereavement in the depressed group. However, again as with Munro's findings, the more severely depressed patients had a greater incidence of parental loss before the age of 20 than moderately depressed patients. The sub-categories of depressives were not age matched, nor did they have similar social class

distribution. A study by Crook & Raskin (1975) did not find differences in the incidence of parental death in childhood between severely and moderately depressed in-patients and also between the depressed group and age and and sex matched normal controls. Another study which showed a similar lack of association between all childhood loss and sub-types of adult depression was by Abraham & Whitlock (1969). Data for parental bereavement was not given separately.

All the aforementioned studies were concerned with hospital in-patients. The conclusion drawn by Crook & Eliot (198Ø) that there is no sound basis of empirical data to support the theorised relationship between parental death during childhood and adult depression or any subtype of adult depression is hard to counter. Although one can readily agree with their warning that the overwhelming aetiological significance attached to the event by many writers is unwarranted, there is some evidence of certain trends which, despite the methodological flaws of the studies, promise room for further enquiries. If the impact of childhood bereavement is more readily apparent in only severe kinds of adult depression (there is more uniformity of results concerning this) then such an event could be more appropriately considered as a 'symptom formation factor' (Brown & Harris 1978). Brown & Harris (1978), for example, found that the incidence of early parental death was higher among psychotic than neurotic depressives in their hospital sample. Although the effect of age was not partialled out (psychotics were older than neurotics, average ages of 45 and 29.5 respectively) the results remained the same when all past losses were combined and proportions by age groups were compared. One conclusion that is

tenable in this context is that loss experiences at critical periods of development could have a weak effect in the way adult depressions are presented. The type of loss, age at loss, social class and cultural background etc. could influence such an association in a number of ways, which are so far largely unspecified. The additional, moderating effects of intervening variables are difficult to assess on the basis of available data. Persistent confounding effects of social variables are almost impossible to tease out in the context of case control designs and the gloomy conclusions of Tennant et al (1980) are appropriate in the context of such methodological deficiencies.

Birtchnell (1974) has in fact cast serious doubts as to the value of the epidemiological method in this area. However, recent enquiries have begun to specify some of these confounding variables and design drawbacks. The need to screen the control population for psychiatric disorder is emphasised by Brown et al (1977) who found that 17 per cent of their community controls had a recognizable clinical syndrome, almost all depressive in nature. Based on the further observation that these community 'cases' had a higher incidence of maternal loss before the age of 11 than non-cases in the community sample and hospitalised depressives (22 per cent compared with 6 per cent and 10.5 per cent respectively) they raised the question of a negative bias in the conventional case-control procedures. Brown et al (1977) argue that early maternal loss not only increases the risk of adult depression, but is also related to factors that lowered the chances of contacting a psychiatrist. The findings of Tennant et al (1979) would seem to support such a conclusion although the suggestion by Birtchnell (1975) that early parental loss is

associated with the personality traits of dependency and hypochondriasis would mean that such individuals are more likely to seek treatment than others. Only further studies which must include depressives identified in the community can adequately resolve these issues.

5. Social support and depression

The notion that social disintegration or inadequacies in the social environment of individuals is conducive to the onset of psychiatric illness is deeply embedded in most theories about mental illness. As with the aetiological significance attached to childhood bereavement or stressful events this idea also has been a recurring historical theme. Social malaise resulting from weakening social bonds has been a productive area of systematic enquiry since Durkheim and the specification of variables and intensive investigations which have proliferated in this area in recent times have been a significant achievement of social psychiatry.

Reference is made to some of the components of the sociological model of affective disorders in this thesis. Such considerations are not the main aim of the study but certain factors related to social support are investigated, in a rather isolated and cursory manner, in relation to affective disorder found in treatment settings and the general population. This selective review is, therefore, an attempt at specifying such factors and an overview of the evidence that posits these variables as putative risk factors in depression. Some of these overlap with dimensions of personal experience already

mentioned such as social class or marriage and most probably exert their influence in a complex interaction with other variables. But the epidemiological approach, at least at the descriptive level, demands a reification of such influences in a way that is suited to empirical investigation.

The value of the support obtained by individuals from a 'social network' is extensively studied. The significance of social support for the individual in terms of his health is also studied extensively. In a review (Cobb 1976) of the relevant studies it has been suggested that the evidence for a direct protective function of social support is limited although it is accepted that the importance of support lies in the mediating role it plays between stress and disorder. Others (Cassel 1976; Dean & Lin 1977) have also argued that any consideration of the impact of stress on health must include the potential buffering role of social support. Leighton et al (1959) investigated this relationship between social support and prevalence of psychiatric illness in their Stirling County studies. The results echoed Durkheim's findings that social disintegration adversely affected the mental health of those living in such circumstances. This was mediated through a variety of material, psychological and attitudinal factors such as poverty, limitations of feelings and expression etc. An equally influential contemporary study - such as the Midtown Manhattan project, reiterated this message about the protective effects of adequate social affiliations (Srole et al 1962).

The value of the support obtained by an individual from a 'social network' has been emphasised by Weiss (1974). On the basis of his

work with groups of people deficient in diffuse social support, he has also specified the needs that are met by social relationships.

Early studies investigating the relationship between social environmental and psychiatric disorder could only draw rather general conclusions about such an association. Taylor and Chave (1964) found that a consequence of moving into a new housing estate, lack of contact with friends and relatives was not associated with increased rates of neurotic symptoms. A study of neurosis among old people in Newcastle (Kay, Beamish & Roth 1964) found that a clear relationship existed between neurosis and other complaints of being dissatisfied with social relationships although such subjective assessments of the adequacy of social support were not congruent with number of social contacts.

A study by Maddison and Walker (1962) also emphasised the role of perceived adequacy of social support in coping with bereavement. Widows who managed to cope best with their grief were those who evaluated the support available to them as sufficient and helpful. Commenting on this study and a study by Krupinski (1979) in Australia, Henderson et al (1981) point out that neurotic symptoms occur more commonly in those who are dissatisfied with the social support available to them and this has little to do with the actual availability of social relationships.

Empirical studies in this area have been helped by two major developments and these are :

(a) the specification of what is understood to be the components

of social support that individuals depend on, and

(b) the availability of methods which could reliably measure not only quantitative aspects of such factors but also qualitative distinction within them.

Brown and colleagues on the basis of their Camberwell study (Brown & Harris 1978) put forward an aetiological model of depression which included psychosocial factors which apparently played a role "in creating vulnerability to depression as well as provoking it". One of them is lack of intimacy as exemplified by a lack of a confiding relationship with a spouse. The availability of a confiding, intimate relationship (rated highest on a four-point scale) afforded considerable protection from developing psychiatric illness, even in the presence of severe life events.

The study by Miller et al (1976) in Edinburgh provided some support to Brown's & Harris's findings (Brown & Harris 1978) that confiding relationship was protective against psychiatric illness. They compared 34 new consulters at a general practice with a matched sample of 34 non-consulters and it was found that either having a good confidant or diffuse social support conferred some immunity against an increase in symptoms following threatening life events. In an extension of this work into a general population sample of 1060 subjects, Miller and Ingham (1979) found that availability of diffuse social support had a moderating effect on symptom levels in the presence of life adversity. Surtees (1980), in an investigation of recovered depressives, also showed that both diffuse social support and the availability of a mutually confiding relationship conferred partial protection against exacerbation of symptoms in

patients exposed to persistent effects of stressful life events.

Henderson et al (1978) in a study conducted in Canberra investigated the size and utilization of the 'primary group' (defined as those with whom one has interaction and commitment) in 50 non-psychotic psychiatric patients (37 depressives) and 50 matched controls. Patients were found to have small sized primary group, to have less contact with its members and an inferior affective quality of interaction with members including their principal attachment figures. This study utilized reliable, standardised measures of social interaction and patients were assessed using the Present State Examination. In a further study, Henderson et al (1981) extended their research into a general population setting. Again case-finding technique was using reliable methods and social relationships were measured by the 'Interview Schedule for Social Interaction'. Their main finding was consistent with Brown & Harris's conclusion that lack of intimacy was associated with depression. Attachment, measured variously, was negatively related to neurosis. Similarly 'social integration', a composite measure of the availability and perceived adequacy of social contacts, also had a negative association with psychiatric disorder. These relationships were shown to be independent of life adversity as indicated by recent stressful events.

This study succeeded in disaggregating the components of social support and in rendering them meaningful and at the same time, measurable. The demonstration of the importance of social ties in psychiatric disorders, as identified in a general population setting, is of course consistent with prevailing notions about their

significance in such a context. However, the direction of causality, that inadequate social contact leads to mental ill-health, could only be inferred. Brugha and colleagues in Dublin, Ireland successfully replicated part of the Canberra study (Brugha et al 1981). They selected 50 consecutive referrals to out-patient clinics who scored above a cut-off score of 12 on the General Health Questionnaire, age 16 to 65 years, had no psychotic symptoms, had no previous psychiatric treatment or physical illness within the previous year. The majority of patients (41 out of 50) had depressive disorders. 50 controls were chosen from general practitioners' lists. Comparison of the two groups showed that the patients had fewer attachment figures and social contacts than controls and that they were spending less time in social interaction. In the week before the study patients had spent more time in unpleasant interaction within their primary groups than the controls. These effects were more marked in those patients considered as having CATEGO N depressions than in CATEGO R class. Again, as in the Australian study, the effects of the illness on the recall and report of social relationships or the causal direction of deficiencies shown in social ties could not be fully understood. These drawbacks are inherent in the case-control design of this study (as well as that of Henderson et al 1978) and the retrospective nature of such enquiries.

All these studies taken together would certainly seem to indicate that depressed individuals, especialy those seen in general population settings, have not only a restricted social support network but also that such ties are perceived as inadequate. Social interactions which take place in such a restricted support network often tend to be laced with affectively unpleasant connotations. The

causal significance of support networks in affective disorders is most likely to be one of mediating between other antecedant factors of life adversity and onset of disorder. The poverty of such relationships will possibly make the impact of life adversity more pathogenic. Hence, the most exciting prospect in relation to social support is that in the stress-illness model of affective disorder a possible intervention strategy, which could potentially thwart or reduce the impact of the illness, is available. Considerably more systematic and controlled enquiries are required, preferably using a cohort approach, before such a promise can be fulfilled.

SECTION III

COMPARISON OF DIAGNOSTIC CRITERIA

A recurring theme in the various studies mentioned in this review so far is one of inconsistencies in psychiatric diagnosis. Lack of specification of what is meant by a particular diagnosis and the application of differing criteria for such diagnoses have been a source of considerable confusion in psychiatric research and the inconsistencies in results have often been attributed to such variations. Various aspects of this problem have already been discussed in detail in the earlier part of this review.

There can be no doubt that the single most important advance in psychiatric research in recent times is the advent of more reliable and easily specified diagnostic criteria. Today we have more than a dozen diagnostic interview schedules each of which can generate

operationally defined diagnostic categories on the basis of symptoms or clinical history or a combination of the two. As with any other innovation in psychiatric research this advance has brought along with it a new set of problems and they impose different kinds of demands regarding the appropriate choice of a set of criteria for the psychiatric research worker. This brief review is concerned with looking at some of the issues in relation to the availability and use of 'operational' definitions and standardised, structured psychiatric interviews. The main focus here is on how these 'operational' rules in symptom definintion and 'case' criteria relate to each other and to assess the overlap and contrast between them. At the heart of such discussion is the question: how comparable are the patients given a specific diagnosis, say depression, by the different criteria?

On the basis of a review of current nosologies for depressive disorders, Sprock (1985) derived "a group of criteria regarded as important for good classification" and they reflected requirements originally proposed in psychometric theory (reliability, validity, stability over time, homogeneity, etc.) and others primarily concerned with format and structure of the nosology (structural criteria). She compared three systems, Feighner criteria (Feighner et al 1972), Research Diagnostic Criteria or RDC (Spitzer et al 1977) and the nosology contained in the Diagnostic and Statistical Manual of Mental Disorders (3rd edition) or DSM III (APA 1980) and found that classification of depression according to these criteria fulfilled most of the criteria proposed to evaluate them. Overall DSM III fared best and the major difference between this classification and its predecessors concerned the structural characteristics proposed to

improve the psychometric qualities and the ease of use. There is similar evidence to suggest that the Present State Examination or PSE (Wing et al 1974) and the PSE-ID-CATEGO system (Wing & Sturt 1978) achieve a high level of consistency and reliability when applied in hospital (see, for example, Wing 1980; Luria & McHugh 1974) and general population settings (Wing 1981).

There is some evidence to show that these diagnostic criteria differ in the number of individuals that are assigned any diagnosis (from a general population setting usually) by each one of them and also in the proportions that are given a single diagnosis (such as depression) in identical groups of individuals. The first one is a problem of threshold (meeting the minimum case criteria) and Wing (1981) gives the example of how general population prevlaence figures obtained by essentially two sets of case-finding methods and according to different diagnostic criteria show some uniformity. Although there are no a priori reasons to suppose that general population prevalence in two areas should be the same, the lack of wide divergence in such rates give some support to the robustness of case-finding techniques employed. Among women, for neurotic disorders, point prevalence rate was 8.3 per cent in New Haven, U.S.A. when SADS/RDC technique was used, 11.9 per cent to 10.6 per cent in South-East London using PSE-ID-CATEGO system and 9.7 per cent in Canberra, Australia where a two stage case findings procedure employing GHQ and PSE-ID-CATEGO system was used (Wing 1981).

The Bedford College team have indicated the extent to which three different case definition criteria give prevalence estimates, on the basis of symptomatic information obtained during one interview

(Finlay-Jones et al 1980). They pooled together data from five general population surveys all of which used the PSE as the case-finding instrument. There were a total of 866 women and from the material presented in their paper (Tables 1, 2 and 3) prevalence estimates according to Bedford College criteria, PSE-ID-CATEGO system and Feighner criteria can be calculated. First, overall rates of disorder were 17.6 per cent (156 out of 866) according to Bedford criteria and 24.8 per cent (215 out of 866) for those at or above ID5. Although the Bedford criteria can also identify what are called 'borderline' cases, they are not considered as equivalents of ID5 (threshold) cases and it would appear to be more appropriate to choose Bedford cases only in comparison with ID 5 or above. In the Camberwell studies, in fact, Brown & Harris (1978) took mainly the Bedford cases in their various estimates and analysis. The close similarity between the prevalence estimates according to two diagnostic procedures is impressive. In the case of depressive disorders according to Bedford, CATEGO and Feighner criteria (Bedford case depression, CATEGO N+ and R+, and Feighner probable and definite primary affective disorder) the prevalence rates were 13.7 per cent, 15 per cent and 14.4 per cent respectively, again showing almost identical estimates. Such estimates can however conceal certain important differences on the individuals who are classified as suffering from a particular disorder. For example, although the overall rate for Bedford depressions (15 per cent) is very close to both ID-CATEGO depression (13.7 per cent) and Feighner affective disorders (14.4 per cent) it is by no means certain that the same individuals are identified as suffering from depression according to different criteria. An indication of the concordance of a diagnosis of depression can be worked out from data from the same paper (Finlay

Jones et al 1980). Of the 51 individuals with a Bedford diagnosis of case depression (and of ID 5 or above) 46 (90 per cent) are given a CATEGO class of N or R while of the 114 with case depression, case depression and case anxiety or borderline anxiety 94 (83 per cent) are given the same CATEGO class designations. However, if all those meting CATEGO N and R criteria are taken together (n = 130) only 35 per cent are thought to be case depression alone and 72 per cent case depression and case depression with anxiety.

So, although the diagnostic systems produce similar prevalence estimates, the individuals who constitute the numerators in such calculations are not necessarily the same. A study by Brockington et al (1982) although primarily concerned with variable outcome of depression according to alternative criteria does provide some indication of the concordance between RDC, PSE-CATEGO and DSM-III. On the basis of PSE data and after assigning diagnoses according to the operational rules the concordance between the systems was examined using the Kappa statistic. This showed some variation (from .51 between CATEGO classes N+ and R+ and RDC major depressive disorder to .74 between RDC major depression and DSM III depressive disorder), although the differences between the systems in the prediction of outcome were more marked.

A direct comparison of four sets of operationally defined criteria for depression, including Feighner and RDC, was carried out with 80 out-patients who took part in a clinical trial of anti-depressant medication (Zisook etal 1980). Clinical data was obtained by means of a directed interview and diagnoses were arrived at on the basis of computer scoring of data derived from the Brief Psychiatric Rating

Scale-BPRS (Overall 1974), a check-list for depression and a history schedule. Out of the 80 individuals 68 per cent met Feighner criteria and 71 per cent the RDC. The two systems agreed on 66 per cent of the 80 subjects, but the agreement was 91 per cent in those identified as depressed by either set of criteria. This reveals that patients selected by the Feighner criteria are a subset of those selected by the RDC with only one patient fulfilling Feighner requirements while not meeting the RDC.

The observation that nearly 30 per cent of those who are considered to be clinically depressed do not meet criteria for RDC diagnosis of depressive disorder (a higher proportion with Feighner) raises questions about its validity although as Robins and her colleagues have concluded, clinical practice is not an adequate standard against which to measure the validity of a research instrument (Robins et al 1982). Keeping such a caveat in mind it is still useful to see the clinical relevance of a diagnostic system or its ability to classify individuals according to the 'coherence' of the syndrome, as understood by clinicans (Nelson et al 1978). For example, it has been shown that the RDC, while 'correctly' including all patients with a clinical diagnosis of 'autonomous unipolar and bipolar depression' in the category of major depressive disorder, over 70 per cent of 'reactive depressions' are similarly classified (Nelson et al 1978). Feinberg and colleagues (Feinberg et al 1979) claimed on the basis of comparing RDC diagnosis given to 48 consecutive out-patients with depressed mood and a final clinical diagnosis based on follow-up information on the same individuals that up to 30 per cent of the patients were "misclassified" by the RDC category of endogenous depression. Using the clinical diagnosis as the true positive

diagnosis they showed that RDC endogenous depression category had 35 per cent false positives and the research criteria failed to identify nearly a quarter of the clinically 'endogenous' group under the same diagnosis (false-negatives). In a more recent study (Freeling et al 1985) this issue was considered from the opposite perspective, that is how many of those meeting RDC depressive disorders are unrecognised as depression by clinicans. The study was set in general practice and involved administration of the SADS to individuals who scored above the case threshold on the GHQ. Out of the 41 individuals so identified as suffering from RDC major depressive disorder, more than half (59 per cent) were not recognised as having depressive illness by the general practitioners. The two groups of individuals differed on a number of important variables, including the duration of illness, concomitant physical disorder and the obviousness of mood changes.

Helzer et al (1978) studied 101 psychiatric inpatients and they calculated diagnostic concordance between a structured clinical interview and information obtained from hospital charts. Using the Kappa statistic they found that there was much variability between the two sources of diagnosis with Kappa for depression as 0.4.

These studies, comparing the diagnostic concordance between operational criteria and clinical diagnosis, do not really tell us much about the relative advantages of either approach although it is possible to suggest that by the use of diagnostic criteria a more homogenous group of patients is picked up, especially if the sub-categorisation of syndrome is utilised. Nelson et al (1978) do not report, for example, how many of the 'reactive depressions' assigned

an RDC diagnosis of primary major depressive disorder also met the criteria for the sub-category of RDC endogenous depression. Moreover, the main object of these criteria is clearly not to diagnose cases in the context of clinical practice but to classify the symptomatology (mostly) in a way that makes for reliable and systematic comparisons in research settings.

The problem, as Kendell (1976) points out, is which of the available criteria to choose in classifying the variations in clinical phenomena. A study from Washington University, St. Louis (Singerman et al 1981) would appear to suggest that as far as depressive disorder is concerned, there is not much disagreement between DSM III, RDC and Feighner criteria. On the basis of clinical information collected by the NIMH Diagnostic Interview Schedule (DIS) the triple concordance rate for major depressive episode (disorder) was found to be 94.5 per cent and pairwise concordance expressed as Kappa was perfect between DSM III and RDC and Ø.89 for other combinations. The authors suggest that because of such excellent concordance the results of a study using any one of the systems could be expected to replicate those based on the other systems.

There would also appear to be a greater overlap between clinical diagnosis and research criteria diagnosis if the variations consequent upon the clinical practice of making a diagnosis without operational rules are controlled for by using a diagnostic instrument. For example, by administering two interviews, one using the DIS (to provide DSM III diagnoses) and the other using the Arbeitsgemeinschaft fur Methodik und Dokumentation der Psychiatrie (AMDP) check list (Guy & Ban 198Ø) which assigns a clinical diagnosis

according to the International Classification of Diseases (8th revision) (ICD-8) there is high concordance of most DIS-DSM III-RDC diagnostic classes with comparable clinical ICD diagnoses (Wittchen et al 1985). The subjects of this study were psychiatric patients as well as general population 'cases', and high concordance rates were found in both groups for current and previous psychiatric conditions. In contrast to Nelson et al (1978) and Feinberg et al (1979), and also to some extent Helzer et al (1979), clinical diagnosis in this study was obtained on the basis of information collected more systematically by the use of AMDP and clinician dependent variations in diagnostic practices are as a result minimised. Neither could the high concordance be attributed to the fact that the same data base was used thus allowing for variations in symptom definition criteria to reduce the agreement between the systems.

However, the use of the same interview schedule does not always lead to high concordance rates if competing diagnostic systems are applied to a uniform symptom configuration thus obtained. It can be argued that information thus collected will favour the diagnostic system to which it is allied although it inevitably conceals the differences between systems based on differing symptom definition criteria.

What is emerging from this short review is that although diagnostic systems based on operational criteria are reliable and their applications are specified unambiguously,there are variations between the systems at all levels. Symptom definitions, time period covered, definitions of episodes, structure of information collection (for example, use of cut-offs) criteria for each diagnosis, number of diagnoses allowed, hierarchical rules or

exclusion criteria all show significant differences among the various systems and such variations in their rules and application inevitably lead to differences in the way they define the dependent variable.

AIMS, DESIGN AND METHOD

CHAPTER 4

AIMS, DESIGN AND METHOD

Aims

This study has a number of related aims. It attempts to measure the extent of morbidity from affective disorder among women in a geographically discrete area of Edinburgh and in particular the measures are concerned with general population rates and hospital treated rates. The study also aims to compare and contrast affective disorders as identified in a community sample with similarly diagnosed disorders in a hospital setting. Differences and similarities in the clinical picture of such syndromes, their associations with socio-demographic factors and the contribution of antecedent variables such as life events and difficultes to the onset and maintenance of these syndromes constitute the major object of this enquiry.

The aims, both principal and subsidiary are restated more formally in a number of hypotheses below. Each hypothesis and its testing in the course of the study will serve to indicate further lines of enquiry.

Principal hypotheses:-

concerning the extent of the morbidity

1. The rates of affective disorder in the general population will be higher than the rates of hospital treated affective disorder.

2. The association between demographic factors and such disorders in the general population will be different from demographic association seen in the hospital settings.

concerning the clinical picture of affective morbidity

3. The symptomatology, the severity of symptoms and the diagnostic categories of affective disorders in the general population will be different (less varied, less severe) than that found in hospital treated disorders.

4. The use of different diagnostic criteria will result in variations in the number of individuals identified as 'cases' and amongst 'cases' there will be variable agreement in assigning similar diagnostic labels.

concerning the determinants of affective morbidity

5. Social support, life adversity will be more important determinants of affective disorders in the general population than that found in hospitals and that there will be an association of such variables with inception into treatment.

Outline of Study Design

This study addresses itself to the question of psychiatric morbidity among women aged 18 to 65 in a geographically discrete area in the north-east quadrant of the City of Edinburgh. The area (the study area) comprises of 12 regional electoral divisions and all the subjects included in the study were residents in this area.

The study itself was conducted in two settings. One was a general population morbidity survey, carried out as a major project of the MRC Unit for Epidemiological Studies in Psychiatry between December 1980 and Spring 1982*. This community study was concerned with estimating the prevalence of psychiatric disorder and its determinants among women in a geographically discrete area. After a prevalence survey sub-samples of those successfully interviewed were assessed again on two occasions, six months and one year after the first interview.

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*This project was planned and executed by five members of the MRC Unit (Dr N Kreitman, Dr J Ingham, Dr P Miller, Dr P Surtees and Dr S P Sashidharan) along with Dr C Dean contributing to its early stages. Although substantial findings of the general population survey are being reported elsewhere, the work described in this thesis is concerned with two of the aims of the general population survey, namely, total estimates of general population and hospital based morbidity and a comparison of cases found in hospitals and in the community.

Case criteria based on operational definitions and determined according to standardised interviews were applied to those achieving sufficient symptoms across the study period. All those meeting such criteria either at the first interview (prevalence cases) or subsequently (inception cases) are included in this study for comparison with the hospital group.

The other setting for this study was the Royal Edinburgh Hospital and to a much less extent other psychiatric units which together form the total psychiatric service provided for the City of Edinburgh. All the women aged 18 to 65 with an address in the study area and who were in psychiatric care, as identified by the Edinburgh Psychiatric Case Register (EPCR), on a census day (15 January 1981) were enumerated and they formed the 'treated prevalence sample'. Subsequent to the census day and over a period of six months (15 January to 15 July 1981) all women who came into contact with the EPCR and who fulfilled the entry criteria (age 18 to 65 with an address in the study area) were identifed and screened. Those who had no previous history of psychiatric care, and those individuals who had such care more than six months before the day of entry into current care were the 'treated inception cases' provided they also met the entry criteria.

All those identified as 'cases' during the community survey and samples from treated prevalence and treated inception groups were given detailed psychiatric assessment. Further information relating to antecedent psychosocial factors was obtained using standardised interviews. These individuals formed the subjects for detailed comparisons that were made between the hospital and general

population settings.

In the general population survey all information was obtained at the same interview with the clinical assessment preceding the sections concerned with social factors including life events. In the hospital setting, in contrast, the clinical assessment was carried out at the time of first contact with the patient (usually at the out-patient clinic or in the wards) and the interview dealing with social factors and life adversity was conducted at a later date. At the time of the clinical assessment interview of patients, permission was sought to reinterview them and where there was agreement the second interview was carried out within 4 weeks for the out-patient group and for in-patients after they had been discharged from hospital or after symptomatic recovery had taken place as determined by clinicians supervising their treatment. In the majority of cases the two halves of the interviews for the hospital group were conducted by different individuals, the clinical assessment by author and the life-event/social factors interview by trained lay interviewers, and the author.

Methodology of the general population study

Study Area

To select the study area the percentage rates of male manual workers in the 30 regional electoral divisions of Edinburgh were examined (Buglass et al 1980). The assumption was that these rates represented the proportions of working class women in the areas. Of

the eleven divisions with the highest rates of male manual workers, four areas were excluded, two because they had been the setting of a number of social research programmes and were thought to have a high rate of problems such as admissions to hospitals with deliberate self-harm or self-poisoning and the other two because the pilot project of this community study was carried out there in 1980.

The geographically discrete and delimited area finally chosen lies in the north east part of the City of Edinburgh. The area comprises of 12 regional electoral divisions (22 wards) with a preponderance of working class population although there is also a substantial number of middle-class population largely resident in two of the divisions. The total female population of the area was estimated by the 1981 census as 73213. Eligible women (age 18 to 65) formed 60 per cent of this (n = 43886) and they constituted 32 per cent of the total population (n = 137453).

Selection of subjects of the community study

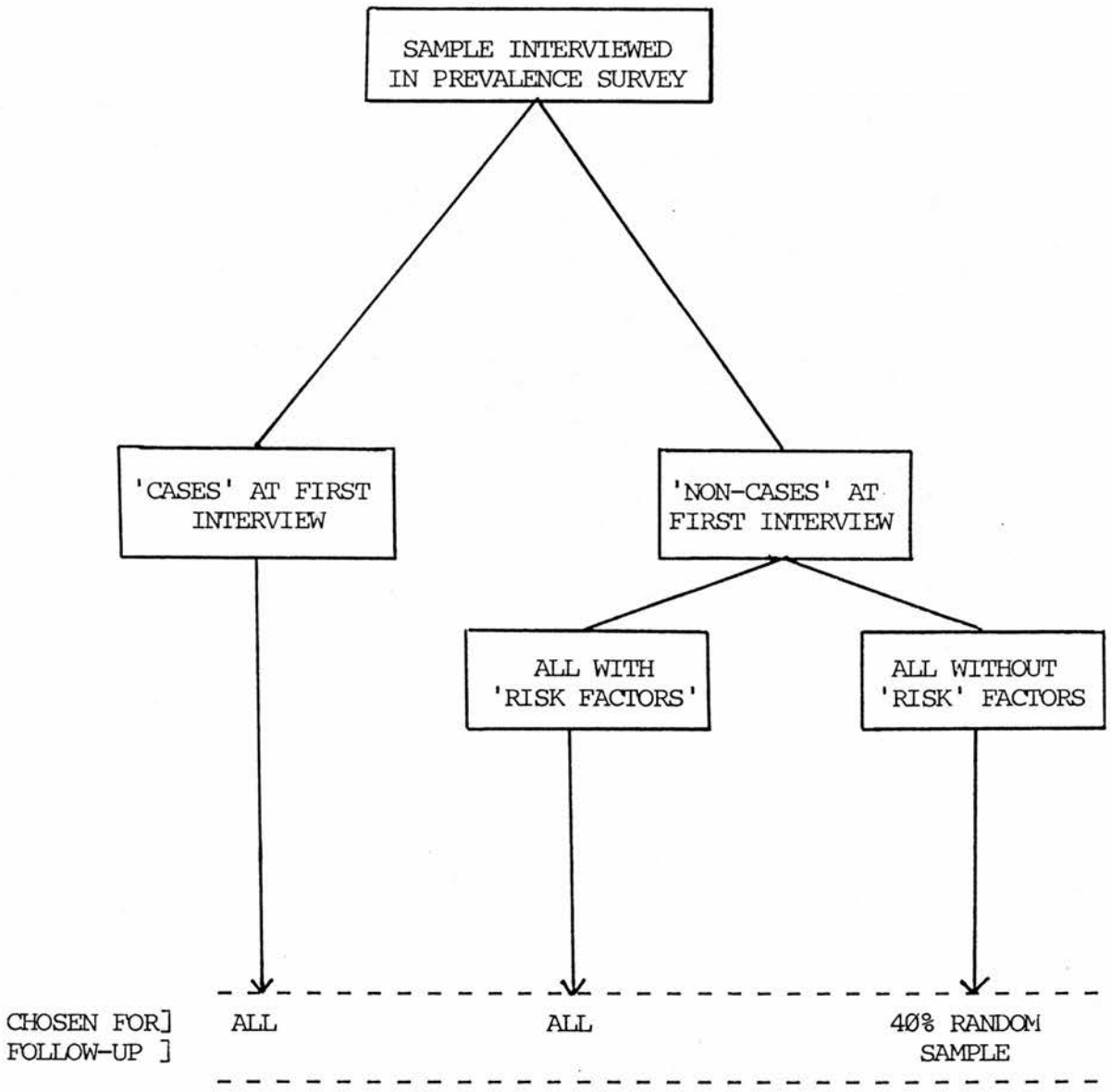
A random sample was generated from electoral registration numbers. Males were discarded when identified. If the woman nominated had moved house since electoral registration, or if the nominated subject was found to be ineligible because of sex or age and if an eligible woman had moved into the house, then a Kish (1965) procedure was used to select a new respondent from all eligible females.

After the first interview, samples were chosen for the follow-up

interviews. The general design of the follow-up and selection of subjects are shown in Figure 4.1.

FIGURE 4.1

DESIGN OF THE COMMUNITY STUDY



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An attempt was made to re-interview :

(a) all those fulfilling predetermined case-criteria at the first interview, and

(b) all those who were not cases at the first interview but had any one of a set of putative risk factors (see Table 4.1).

In addition a 40 per cent random sample of the remainder of the non-cases was selected for re-interviews. All those meeting case-criteria at any time over the whole of the study period were selected as community cases and depending on whether they were cases at the first interview or became ill subsequently were sub-divided into community prevalence and community inception cases.

Selection of subjects for the hospital study

(a) Prevalence study

The Edinburgh Psychiatric Case Register (EPCR) was used as the sampling frame. This case-register has been in existence since the early seventies and lists all contacts with the psychiatric services in Edinburgh. Information relating to the circumstances of each contact including source of referral, demographic characteristics, clinical diagnosis and outcome of contact are collected routinely for all individuals seen by psychiatrists (see Appendix I). Longitudinal data are included where appropriate, under individual identifier numbers. All women between the ages of 18 and 65 on 15 January 1981 and designated as currently in care on that date were identified.

Women fulfilling these criteria and having an address in the study area formed the treated prevalence sample. A proportion of these were resident in hospital on the census day (in-patient prevalence sample) and the rest were in extra-mural care (out-patient prevalence sample). All the individuals from the in-patient prevalence sample were interviewed within 2 weeks of the census day. There was no way of identifying the out-patient prevalence group prior to the census day. The EPCR has a delay of 2-3 weeks before it can successfully enumerate all those in care on any particular day because of problems associated with data collection and verification. It also allows a period of 3 months after the last contact before an individual is considered to be not in care. These logistical problems combined with the inability to obtain an alternative sampling frame prior to the census day prevented a random sample being drawn for interviews from the out-patients prevalence group. A full list was however obtained subsequently and it is this total group that is used in all considerations of out-patient prevalence (see below).

(b) Inception group

Eligible to be included in this group were all women referred to the psychiatric services in the six months of the study (15 January 1981 to 15 July 1981). Inception into treatment group consisted of all such women if :

(i) they were aged 18-65 on the day of attendance at the clinic and

(ii) if they had a permanent address (usual place of residence for at least six months) in the study area, and

(iii) If they had no previous contact with the EPCR, or

(iv) if they had previous contact, that contact (or episode of psychiatric care) was terminated at least six months prior to the day of recent contact.

All referrals were screened routinely and daily for individuals fulfilling these criteria attending the out-patient clinics in operation at the time. They were :

(1) Andrew Duncan Clinic, Royal Edinburgh Hospital

(2) Psychiatric out-patient clinics at Royal Infirmary, Edinburgh

(3) Western General Hospital, Edinburgh

(4) Northern General Hospital, Edinburgh

(5) Leith Hospital, Edinburgh

(6) Special out-patient clinics for alcohol problems)

(7) " " " " " drug addiction) Royal Edinburgh

(8) " " " " " sexual problems) Hospitals.

Because of the catchment area sectorisation policies of the local psychiatric services these were the eight clinics in which women from the study area were likely to be seen. Routine, booked, new referrals to all these clinics except the special clinics were sampled on a systematic basis and individuals so chosen were approached immediately after they had seen the psychiatrist and permission was sought to include them in the study. In addition to the routine referrals to these clinics, the Royal Edinburgh Hospital operates a 24 hour emergency clinic where individuals are seen without prior appointment but usually as a result of requests from the general practitioners. Every morning a list of all such

emergency attenders in the previous 24 hours was obtained and a one in four sample of these was approached by letter if they were not being seen again or personally if they returned for a follow-up interview, and they were requested to co-operate with the study.

Admissions to the Edinburgh Regional Poisoning Treatment Centre (ERPTC), emergency psychiatric referrals to the accident and emergency departments of local general hospitals, those assessed at police stations or for judicial purposes, others seen in general hospital settings or during domiciliary visits or in private clinics were not sampled.

However all those referred to the EPCR in the six month period (including all the settings mentioned above except admissions to the ERPTC and those seen in private clinics) and fulfilling the entry criteria were enumerated subsequently and relevant data drawn from the EPCR. This formed the full out-patient treatment inception group and the sample interviewed was part of this.

In tandem with the out-patient referrals, all admissions to the in-patient facilities at the Royal Edinburgh Hospital were screened routinely. The medical records department of the hospital provided a daily record of all admissions to the hospital that had taken place in the previous 24 hours. This was scrutinised every morning and admissions of women meeting the entry criteria were selected. Within 48 hours of admission, all such individuals or the medical and nursing staff of the ward to which they had been admitted were contacted. On the basis of information thus obtained, a set of exclusion criteria were applied. These were :

(i) age at the time of admission below 18 or above 65 years

(ii) not usually (less than six months) resident in the study area

(iii) previous history of psychiatric contact if different from the current episode of treatment was in the six months before index admission

(iv) definite physical disease, that could entirely account for the admission

(v) evidence of organic brain syndrome

(vi) mental sub-normality

(vii) presence of severe language or hearing difficulties

(viii) evidence, confirmed by a clinical diagnosis, of chronic schizophrenia, alcoholism or drug addiction in the absence of any affective pathology.

If none of the above criteria which could be checked with reasonable certainty by consultation with case notes or ward staff resulted in the patient being excluded, then the individual was approached and permission was sought for a clinical interview.

A small group of individuals who were discharged from hospital within 24 hours of being admitted were approached by letter and their permission was requested to be interviewed.

The group that was interviewed formed the inception into in-patient treatment study sample. The total group of in-patient inception as well as all other admissions during the study period were subsequently enumerated and formed the total group of in-patients. In addition to the inception group, a sample of all admissions

(irrespective of previous care but meeting all other criteria) was selected and interviewed if they were reported by the clinical staff to have had a clinical diagnosis of affective disorder. These were designated as "old in-patients" in contrast to "new-inpatients" included in the in- patient inception group.

Design of interviews and procedure for administration

There were differences in the content and the procedure of administration of interviews between the community survey and the hospital study. Table 4.2 summarises the various aspects covered by the interview in the two settings.

Psychiatric assessment community survey

Psychiatric assessment of all subjects in the community survey was carried out by the use of the Psychiatric Assessment Schedule (PAS) (Appendix II). This consisted of an examination of psychiatric symptoms in the month preceding the interview, questions concerning functional impairment, behavioural ratings of selected items as observed at the interview, questions designed to elicit the onset and offset (where appropriate) of selected key symptoms, episode-based enquiries about affective disorders in the five months prior to the month and determination of the presence of a limited range of life-time (personality) diagnoses. Enquiry was also made about the history of health sevice contact.

TABLE 4.2

	SECTION I DEMOGRAPHIC ITEMS	SECTION II CLINICAL ASSESSMENT	SECTION III SOCIAL FACTORS	SECTION IV LIFE EVENTS AND DIFFICULTIES
Community Survey	Age Marital Status, Social Class	(1) Psychiatric Assessment Schedule (PAS) (2) Onset of episode (3) Health Service contact	(1) Early parental loss (2) Living group and (3) Social support (4) Confidant ratings (5) Self-esteem scales (6) Coping ability	Edinburgh version of Bedford College Life Events and Difficulties Interview - Period covered 6 months before the interview
Hospital Study	As above	(1) Full PSE and SADS Part I and II (2) Onset of episodes (3) Health Service contact	Same as in the community study except self-esteem scales and coping ability	Same as in the community study except period covered 6 months prior to onset if onset within 6 months

The PAS was essentially based on the first 40 items of the PSE (9th edition) along with 6 behaviour ratings from the same instrument. Added to this were 9 questions and 2 behaviour ratings from the SADS (3rd edition). Three other items from the SADS relating to onset, duration of symptoms and functional impairment completed the one-month (current) assessment section of the interview. There was one question designed to rule out the presence of delusions and hallucinations. The second part of the PAS elicited information regarding the presence of depressive disorder, panic disorder and generalised anxiety disorder (according to RDC criteria) in the five month period prior to the 'current' month and to each category was allied questions about onset, offset, duration and impairment. Four life-time diagnoses according to RDC (cyclothymic disorder, Briquet's disorder, Intermittent depressive disorder and labile personality) were assessed in the next section of PAS. Both in the five months and life-time sections hierarchical rules as embodied in the RDC were adhered to by the use of appropriate cut-offs.

The final section of the PAS dealt with health service contacts at three levels: general practitioner, psychiatric out-patients and psychiatric in-patients. The choice of the PAS in case finding in preference to other instruments available at the time was determined by one of the aims of the study, namely the comparison of different diagnostic systems in the community cases.

This interview, in the community survey was administered by trained lay interviewers. A team of 22 women were recruited and given six weeks training, a substantial part of which was devoted to training in psychiatric assessment. This included the use of PAS in video-

taped clinical interviews and individual clinical interivews with hospitalised patients. During the initial stages of the training, the interviewers were taught how to rate psychiatric symptoms reliably using case vignettes and video-taped interviews in a seminar setting. Next they interviewed hospital patients in turn during which simultaneous ratings were made by others as observers. Finally, each trainee undertook six interviews in the community setting, at least one of which was in the presence of the trainers. All trainees also completed ratings of two audio tapes and these ratings were checked against consensus ratings agreed by the tutors. Additional training was given to three of the trainees and the study interviews were begun only after this and were carried out by 21 interviewers who successfully completed their training.

During the whole of the study (three interviews) the psychiatric assessment of the subjects was tape-recorded (with respondent's permission). When the interviews (PAS) were returned they were examined by a member of the MRC staff to check for evidence of current symptomatology. If the interviewer ratings resulted in a score of ID5 or above or an RDC diagnosis (on the basis of computer analysis) the audiotape of the interview was listened to and rated by one of the three staff raters. Consensus ratings were then achieved by joint discussion between interviewer and staff rater. The inter-rater agreement among the staff raters (on the basis of a separate reliability study using 3Ø cases) expressed as agreement on the presence or absence of a diagnosable psychiatric condition (Wing et al 1977) was Ø.77.

The follow-up of those identified as 'cases' at the initial interview

was undertaken by a smaller group of 5 interviewers, including the author. The procedure of the interviews was the same as in the prevlance study except that in advance of assessments, interviewers were given some information about the key symptoms that were present at the initial assessment. This was done to facilitate a consistent approach towards achieving a clinical description (and appropriate ratings) of the illness episode and accurate dating of major illness change points. In the follow-up interviews as a whole, in 60 per cent of the subjects, the re-interviews were conducted by the same interviewer who had seen the subject initially.

Psychiatric assessment - hospital study

The hospital study, like the community survey, had as one of its aims a comparison of various diagnostic criteria derived on the basis of standardised symptoms assessment. PAS, based on the short (40 item) PSE with a few additional questions to give RDC diagnosis was chosen in the community survey partly because of the ease with which it could be used by lay interviewers and partly also because the assessment had to be carried out in a reasonably short period of time. In the hospital study the clinical assessment could be carried out in greater detail and the pressure of time was much less because the two parts of the interview (psychiatric assessment and life events interview) were not conducted at the same time. It was therefore decided to use both the PSE (9th edition) in its entirety and SADS (3rd edition) Parts I and II for psychiatric assessment in the hospital setting, for both out-patients and in-patients.

The use of two interviews, both covering largely the same area but adopting different approaches in eliciting information posed certain problems about their administration. After piloting the interviews, both consecutively but in the different order and in parallel, it became clear that the two instruments were best used one after the other. The general pattern that was followed during the study was to start with SADS Part I followed by the PSE.

The interviews started with the SADS because the range and nature of the introductory questions in this instrument appeared to fit in more easily with the traditional style of clinical interviews. Apart from the opportunity given to take a detailed clinical history of present illness, the emphasis on episode of illness seemed to sit more easily with the clinical approach of the interviewer. PSE was used on completion of SADS Part I and all the obligatory questions were put to the subject even though this entailed some repetition from the SADS. It was very rare for the symptoms to be rated simultaneously as the symptom criteria enquired about the the two instruments were not always consistent with each other. PSE was used in the traditional manner covering a period of one month before the day of the interview.

On completion of the PSE, Part II of the SADS, concerned with previous psychopathology was covered. Based on the information given during the whole interview, further questions concerning the onset of the current episode were put to the subject. An onset was established and dated. This was achieved on the basis of when key symptoms such as persistent dysphoric mood started, reports of change from normal self, last like normal self for 2 months or more, and

subject's awareness of impairment of functioning. Dates of consultation with general practitioner, out-patient clinics, admission were recorded where appropriate.

In a small number of hospital prevalence cases, where detailed interviews were not possible (for example, in those with organic brain syndrome) case-note material was used to make a diagnosis.

RDC diagnoses were obtained on the basis of symptom ratings, duration of episode and impairment scores from SADS Part I. PSE ratings were processed using the ID-CATEGO computer algorithms (Wing & Sturt 1978) and ID levels, CATEGO classes and ICD diagnoses were determined.

All the psychiatric assessments for the hospital cases were carried out by the author (SPS). As mentioned above the inter-rater reliability with two other staff members on the case/non-case criteria was satisfactory.

Assessment of social factors and life-events/difficulties:

This part of the interview was similar in hospital settings and in the community survey (full details in Appendix III and IV).

The procedure of administration of this interview and the time period covered however differed in two ways. First, all the information (both psychiatric assessment and the collection of social/adverstiy data) for each individual was collected at the same interview in the community survey. In hospital cases, the second half of the interview was carried out, in the majority of instances, only after

substantial clinical improvement had taken place and these interviews were often carried out at the subject's home after discharge from hospital (for in-patients). Interviews in the comunity settings, at each phase of the study, were not split-up like this and all information from an individual was collected by one interviewer. The social factors/life event interviews were conducted by three lay interviewers among the hospital group.

Another difference between hospital and community studies was that in the former setting life-events/difficulties were enquired about for a period of six months prior to the onset if the onset occurred in the previous six months ('onset cases') in addition to the time between onset and inception into hospital care. For those with an onset outside the six months ('chronic cases') life events interviews covered the six months prior to hospital inception. For subjects in the community all three interviews (prevalence study and the two follow-up assessments) enquired about life events and difficulties occurring in a fixed period of six months before the interview, irrespective of whether they were cases or not, and amongst cases, regardless of when the onset was.

The hospital study did not use the self-esteem scales and measures of coping but apart from this, the contents of the second part of the interviews were identical in the community and hospital settings.

The design of this part of the interviews contained the following sections. These interviews were highly structured.

1. Loss experiences

This covered a number of dimensions. Primarily the enquiries were focussed on parental bereavement in childhood. The type of childhood loss or separation, the age at which it occurred, and the reasons for such an event were asked. In addition, loss through death of siblings, spouse and children was established. A history of still-births, miscarriages, infant death was obtained and scored.

2. Social contacts

The number, identity (relationship to the subject), availability and age of all those living with the subjects was assessed. Relationship between the subject and individual household members was rated on a five point scale by the subject. Parents, parents-in-law, husband, siblings, children and fiance were defined as close relatives and in addition to household members the frequency of contact and availability of contact with such relatives were assessed.

Another variable that was measured under this section was the availability, nature and quality of confiding relationships a subject might have had in the period immediately prior to the interview. The presence of a confidant was established by asking whether there was anyone to whom the subject could turn to, in a crisis or emergency, so that she could share her troubles. On identifying such a person the subject was asked about:

(i) the quality of the confiding relationship, (i.e. whether she could tell him/her everything)

(ii) the availability of the person

(iii) the reciprocity of the relationship (whether her confidant did or could tell all his/her troubles to the subject)

(iv) the frequency of contact with the person in the last month, and

(v) a relationship rating on a five point scale assigned by the subject herself.

The extent of the diffuse social support available to the subject was also assessed in this section. This involved individuals seen at work (where applicable) with whom the subject has "a chat with from time to time', number of neighbours and other close relatives with whom the subject came into contact, and individuals met in other social settings such as clubs or more informal groups.

3. Life-events and long-term difficulties

This part of the interview was designed to collect information on the presence and severity of life adversity which the subject had experienced within a specified period of time. As mentioned above, this time period was six months prior to the interview for all community subjects (repeated twice at subsequent interviews). In hospital subjects with an onset in the preceding six months, a pre-onset period of six months was covered as well as onset to treatment inception. For those with an onset outside the six months the period covered was identical to that of the community subjects.

The interview used was the Edinburgh version of the Bedford College

Life Events and Dificulties Schedule (Appendix IV). The maor difference between the Edinburgh version and the Bedford College LEDS is in the collection of information (Edinburgh uses a check list to elicit information prior to probings of individual items) and in ratings (Edinburtgh, in addition to conventional ratings, uses a number of other dimensions to measure events and difficulties).

RESULTS : Part I

CHAPTER 5

PREVALENCE

(i) Hospital in-patients

On the 15th January 1981 (census day) there were 35 women between the ages of 18 and 65 and having an address in the study area resident in the Royal Edinburgh Hospital. Two of the 35 women were resident in a half-way hostel attached to the Royal Edinburgh Hospital and the remainder were resident in hospital wards.

Using 43886 as the base population (women aged 18-65 in the study area, enumerated as in 1981 census) this gives an in-patient point prevalence rate of 79.8/100,000 women.

Tables 5.1, 5.2 and 5.3 give the breakdown of the in-patient prevalence sample by age groups, marital status and social class. Since all of the 35 women were interviewed (see below) this data is based on information obtained from the subjects and verified by case-notes. The tables also give point prevalence rates according to the various categories.

The average age of the in-patients was 46.4 years (SD 13.6), the youngest aged 20 and the oldest woman aged 64. The distribution was skewed towards older age groups and the median was 50 years. As can be seen from Table 5.1 the point prevalence rate increases with age

and the rate is nearly 3 times higher in the 55-65 age group compared to the 17 year age band 18-34.

There is an excess of single, widowed and divorced women when taken as a group and their point prevalence rate is over six times that of married women (Table 5.2). Proportionately there were more single women in hospital (46 per cent in patients). This is in contrast to the base population, where 60 per cent of women are considered as married.

Variation in rates according to social class (Registrar General classification) is not as pronounced as those seen for marital status and age (Table 5.3). There is a trend towards over-representation of the highest and the lowest social class but the numbers are so small that a unit change in the numerator will produce dramatic changes in rates. However, if the social class variable is dichotomised (middle-classes I, II & III NM and, working = IIIM, IV & V) the middle-class rate is higher (93.8/100,000 compared to working class (75/100,000).

One-fifth of the in-patient group was given a clinical diagnosis of organic brain syndrome and all of them were resident in long-stay wards of the hospital (Table 5.4). This group had been in hospital for an average of 9.8 years, with the longest admission for nearly 26 years. As commented on by Wing (1975) there are special problems about calculating rates for conditons which give rise to such chronic handicap. In interpreting the denominator for such cases, one will have to bear in mind that although these patients originally were living in the study area, because they had been in hospital for a number of years it is possible that their houses may have been pulled

Table 5.1:

In-Patient Prevalence - Age

Age Groups	Population		IP Sample		Rate/100,000 Age specific rates
	n	%	n	%	
18-34	19218	43.8	9	25.7	46.8
35-54	15097	34.4	13	37.1	86.1
55-65	9571	21.8	13	37.1	135.8
All ages (18-65)	43886	100	35	100	79.8

Sample mean = 46.4 $\pm$ 13.6 Range 20 to 64

Table 5.2:

In-Patient Prevalence - Marital Status

Marital Status	Population		IP Sample		Rate/ 100,000
	n	%	n	%	
Married	26487	60.4	7	20.0	26.4
Single	17399	39.6	16	45.7	161.0
Widowed			7	20.0	
Divorced			5	14.3	

Table 5.3:

In-Patient Prevalence - Social Class

Social Class (RG)	Population		IP Sample		Rate/ 100,000
	n	%	n	%	
I	2326	5.3	4	11.4	172.0
II	9567	21.8	7	20.0	73.2
III NM	10665	24.3	8	22.9	75.0
III M	11454	26.1	4	11.4	34.9
IV	6758	15.4	8	22.9	118.4
V	3116	7.1	4	11.4	128.4
All classes	43886	100	35	100	79.8

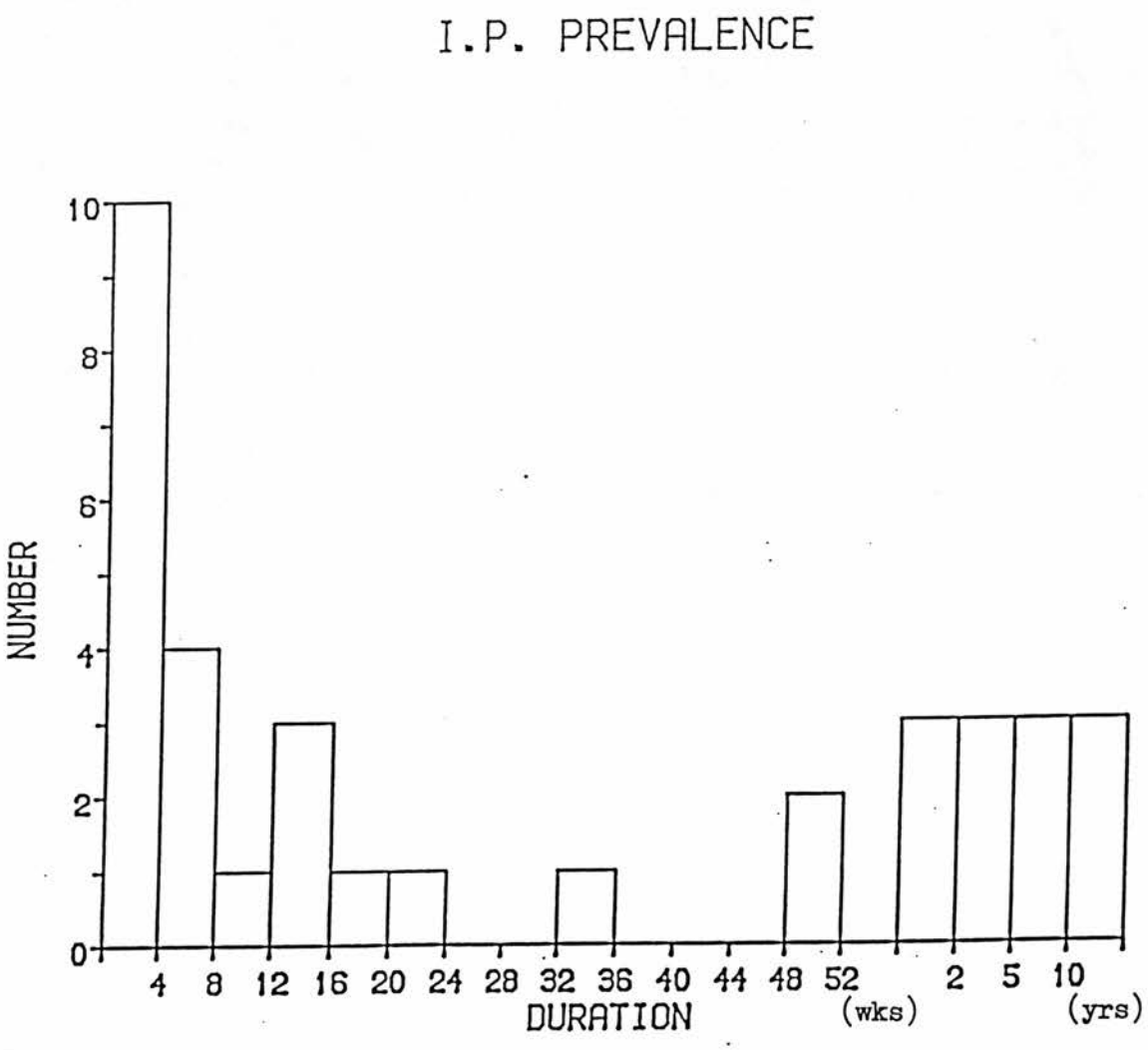
Table 5.4:

In-Patient Prevalence - Diagnostic Categories

Clinical Diagnosis	IP Sample n	IP Sample %	Rate/100,000
Dementia	2	20.0	16.0
Organic Psychosis incl. Korsakoff	5		
Mental Subnormality	2	5.7	4.6
Schizophrenia	8	22.9	18.2
Paranoid Psychosis	2	5.7	4.6
Mania	3	34.3	27.3
Depressive Illness	9		
Alcoholism & Drug Addiction	2	5.7	4.6
Bulimia	2	5.7	4.6

down, their relatives may have moved away from the area and therefore it would be misleading to say that patients like this are residents of the study area. The duration of hospital stay for the whole in-patient group is shown in a histogram (Figure 5.1). Patients with organic brain syndrome and schizophrenia make up the group of chronic in-patients. Duration of stay by clinical diagnosis (Table 5.5) reveals this.

Figure 5.1:



The diagnostic categorisation of these in-patients was further examined through interviews. The SADS and PSE were administered, although in only 21 of the 35 women could the PSE be completed (7 refused). All those who completed the PSE, along with the 7 who refused the PSE, were interviewed using the SADS. On the remainder (n = 7) standardised clinical ratings on the basis of structured interviews was not possible because they were uncommunicative or too disturbed, but their casenotes were scrutinised and RDC diagnoses applied to information thus collected.

Table 5.6 shows the distribution of current diagnoses given to the in-patient group. Nearly a third of the patients were excluded by RDC or were categorised as other psychiatric disorder. In addition to those with organic brain disorder this group included mental subnormality and 2 patients with eating disorder. The point prevalence rate of affective disorder (both mania and depression and schizo-affective) is 27.3/100,000, identical with that obtained on the basis of the clinical diagnosis obtained from case-notes. They do not refer to the same patients; out of the 9 individuals given a clinical diagnosis of depressive illness one was categorised as generalised anxiety disorder by the RDC and another as schizo-affective (mainly depression) while one patient with schizophrenia (clinical diagnosis) is re-classified as schizo-affective (mainly depression) by the RDC. If the schizo-affective group is excluded the point prevalence rate of hospital treated affective disorders is 22.8/100,000.

The PSE-ID-CATEGO data (along with RDC diagnoses) is given in full in

Table 5.5:

In-Patient Prevalence - Duration of Stay by Diagnostic Groups

Diagnostic Groups (RDC)	n	Range (wks)	Mean (wks)	SD
Current Diagnoses				
Schizophrenia (incl. depr syndrome superimposed on schizophrenia)	7	17-312	123.5	113.9
Schizo-Affective depression	2	48-260	154.0	
Unspecified Functional Psychosis	3	1-15	5.7	6.6
Major depr disorder	7	1-22	7.7	7.2
Manic disorder	3	1-8	4.3	2.9
Subst. use disorder	2	1-34	17.5	
Excluded Diagnoses				
Dementia/Org Brain Syndrome	7	63-1348	510.3	469.3
Mental subnormality	2	4-5	4.5	
Eating disorders	2	10-16	13.0	

Table 5.6:

In-Patient Prevaleance - Diagnostic Categories

RDC Current Diagnosis	IP Sample n	IP Sample %	Rate/100,000 Population
Definite Schizophrenia	5	17.1	13.7
Depr Syndrome superimposed on Schizophrenia	1		
Schizo-affective (mainly depr)	2	34.3	27.3
Definite Manic Disorder	3		
Definite Major Depr Disorder	7		
Unspecified Functional Psychosis	3	8.6	6.8
General Anxiety Disorder	1	2.9	
Alcoholism	1	5.7	4.6
Drug Use Disorder	1		
Other/Excluded Psychiatric Disorder	11		

Appendix A V (i). The 21 patients who successfully completed the PSE had a mean total PSE score of 13.6 (SD 9.9) with a range of 1 to 34). This range of scores and varying ID levels (only 12 out of 21 above ID 5) could be attributed to diagnostic categories not covered by the PSE and duration of hospital stay. It is possible that in chronic hospital patients impairment or handicap consequent to the illness more than current symptomatology play a crucial role in continued hospital residence. In the 9 patients with ID levels below 6, 2 had bulimia, 2 substance use disorder and one mental subnormality, symptoms of which are not assessed specifically by the PSE. Of the remaining four, two had a diagnosis (RDC) of schizophrenia and they both had been continuously resident in hospital for over a year.

(ii) Hospital out-patients

On the census day there were 135 women between the ages of 18 and 65 from the study area who were attending any one of the various out-patient clinics attached to the Royal Edinburgh Hospital. These clinics represented all the out-patient psychiatric services including special clinics such as alcoholism, drug addiction, continued care etc. The sample was derived from a day census of the Edinburgh Psychiatric Case Register (EPCR).

The point prevalence of out-patient cases was 307.6/100,000 women, nearly four times the in-patient rate. These women were, on average, younger than those in hospitals (mean age 42.8; SD 12.3) and age specific rate showed a peak in the 35-54 age group followed by a

decline in the 55 to 65 age group (Table 5.7).

The out-patient prevalence sample differs from the in-patient sample in having proportionately more married women (nearly half) although like the in-patients the prevalence rate for married women is less than that of single, widowed, divorced categories taken together (Table 5.8). The difference between married and non-married rates is of smaller magnitude than that found in the in-patients.

Examination of the diagnostic categories in the out-patient sample (Table 5.9) shows that affective psychosis and 'neurotic disorder' groups account for nearly half (47.7 per cent) of all the patients. Absence of further differentiation within the latter group (sub-categories of neurosis) makes it somewhat difficult to assess the exact proportions within this category belonging to depressive neurosis, although the majority of them are thought to be anxiety and depressive conditions. Comparison with the in-patient sample shows trends that are consistent with impressions of general clinical practice, that is, fewer 'organic conditions' in the out-patient group and an excess with substance use disorder in ambulatory care. The relative rarity of schizophrenia in the out-patients (less than one-tenth of the out-patients) could only be accounted for by the fact that changes in clinical practice within the hospital had led to many schizophrenics on maintenance medication being transferred back to primary care settings. On the other hand, individuals with affective psychosis on maintenance therapy (say, with lithium) were more likely to be hospital attenders.

Although the differences between in-patient and out-patient

Table 5.7:

Out-Patient Prevalence - Age

Age Groups	Population		OP Sample		Rate/100,000 Age Specific Prevalence
	n	%	n	%	
18-34	19218	43.8	41	30.4	213.3
35-54	15097	34.4	67	49.6	443.8
55-65	9571	21.8	27	20.0	282.1
All ages (18-65)	43886	100	135	100	307.6

Sample mean = 42.8 SD = 12.3 Range 18 to 65

Table 5.8:

Out-Patient Prevalence - Marital Status

Marital Status	Population		OP Sample		Rate/ 100,000
	n	%	n	%	
Married	26487	60.4	67	49.6	253.0
Single			41	30.4	
Widowed	17399	39.6	10	7.4	390.8
Divorced & Separated			17	12.6	
All Categories	43886	100	135	100	307.6

Table 5.9:

Out-Patient Prevalence - Diagnostic Groups

Diagnostic Group (Clinical Diagnosis)	OP Sample n	OP Sample %	Rate/100,000 Population
Dementia	1	3.7	11.4
Other Org. Cond.	4		
Schizophrenia	12	8.9	27.3
Affective Psychosis	35	25.9	79.8
Other Functional Psychosis	3	2.2	6.8
Alcoholism	12	8.9	36.5
Drug Addiction	4	3.0	
Neurotic Disorder	29	21.5	66.1
Person. Disorder	8	5.9	18.2
Subnormality	1	0.7	2.3
Other Diagnosis	21	15.6	47.9
No Psychiatric Illness	5	3.7	11.4
All groups	135	100	307.6

Table 5.10:

Out-Patient Prevalence - Duration in Care by Diagnostic Groups

Diagnostic Groups (Clinical Diagnosis)	n	Range (wks)	Mean (wks)	SD
Dementia and Org. Brain Syndr	5	1.1-67.0	17.0	28.2
Schizophrenia	12	1.0-115.9	28.9	34.3
Affective Psychosis	35	2.3-169.7	41.8	42.5
Other Psychoses	3	2.3-44.7	21.5	
Neurotic Disorder	29	3.6-176.6	26.0	34.7
Alcoholism	12	4.6-70.0	16.2	18.2
Drug Addiction	4	0.4-10.9	4.3	4.6
Person. Disorder	8	0.4-180.9	44.8	62.9
Subnormality	1	53.6	-	-
Other Diagnoses	21	5.4-52.0	18.3	11.2
No Psychiatric Illness	5	2.4-77.7	21.8	31.5

Table 5.11:

Out-Patient Prevalence - Previous Psychiatric Treatment Prior to Current Episode

Type of Treatment	n	%
In-Patient Care	66	48.9
Out-Patient Care	90	66.7
Day-Patient Care	7	5.2
No Previous Care	27	20.0

Table 5.12:

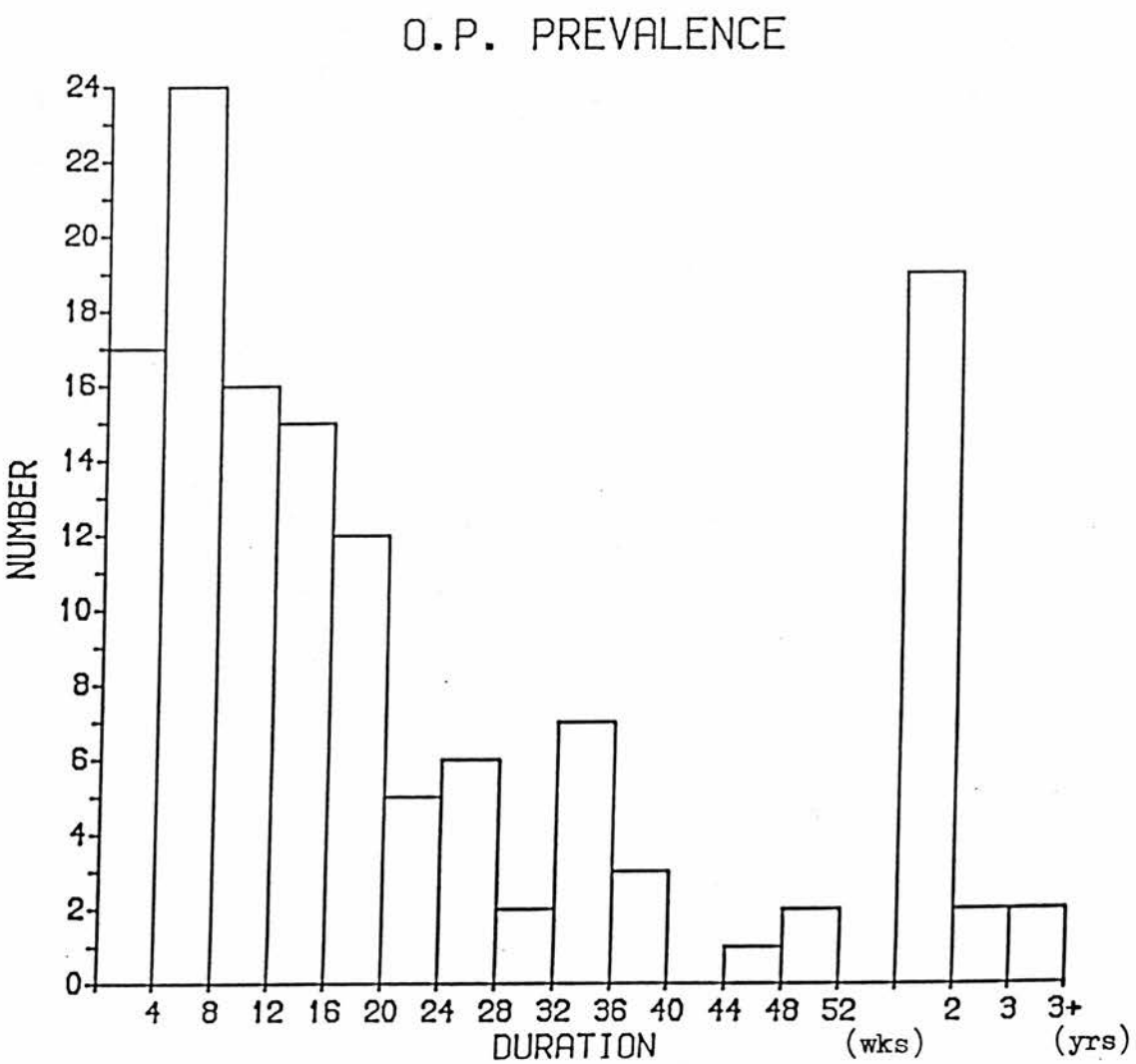
Point Prevalence of Specific Diagnostic Groups in relation to Affective Disorders

Diagnostic Group	n	%	Rate/100,000 Women
Org. Brain Syndr (incl. Subnorm)	15	8.8	34.2
Schizophrenia (incl. Paranoid Psych)	25	14.7	57.0
Alcoholism & Drug Addiction	18	10.6	41.0
Other Diagnoses	31	18.2	70.6
No Psychiatric Diagnosis	5	2.9	11.4
Affective Disorder	76	44.7	173.2
Total	170	100	387.4

prevalence samples on 'clinical diagnosis' could be seen as reflecting the local pattern of clinical practice, it is worth emphasising that the diagnostic labels for the out-patients were derived from case-register data while the data for in-patients was subjected to verification through clinical notes.

The majority of out-patients had been in treatment for less than four months but there was a wide variation in the duration of care for the current episode as shown in the histogram (Figure 5.2).

Figure 5.2:



Average duration in treatment was 28 weeks (SD 35.1) with the distribution showing a substantial number in long-term treatment. Examination of this variable by diagnostic category confirms the earlier suggestion that average duration of hospital treatment for the affective disorders is longer than most other categories (Table 5.10). Duration of treatment as specified here is the length of current treatment episode and does not indicate the total time individuals had spent in care since their first hospital contact. In fact, only 20 per cent of the out-patients in this sample had no previous episodes of hospital treatment (Table 5.11). Nearly half of them (49 per cent) had previous in-patient care and this suggests that the vast majority of those picked up in a one-day prevalence estimate are probably chronic patients.

(iii) Total Prevalence

By combining the out-patients and the in-patients and deriving a total point prevalence rate for hospital treatment gives a figure of 387.4/100,000. Age, marital status and diagnostic distributions of this total group are given in the Appendix.

Although there were no day-patients, this figure of nearly 4 per 1000 women receiving psychiatric treatment from the study area on any given day is still likely to be an underestimate. The reasons for such a suggestion are related to the administrative aspects of the case-register. The EPCR works on the basis that any patient who failed is automatically considered as discharged from care.

Similarly those attending clinics outside the routine working hours of the records department and whose appointments are not documented by the clerical staff (who in turn are not informed of such a hospital visit by the clinician) are also likely to have lapsed their treatment if their names do not appear in the routine data forms for over three months. The only bias that could work in the opposite direction is when a patient is discharged from care by a clinician and the EPCR is not informed of such a decision in which case the patient will be counted as continuing in care for a further period of 3 months. The margins of these errors are difficult to estimate. But some indication of the false-negative count was obtained from looking at all hospital admissions over a period of six months following the census data when in 128 individual admissions 44 (34 per cent) patients reported that they had psychiatric treatment in the previous six months and only 17 of these individuals (39 per cent) were listed in the prevalence sample (n = 170). Most of the rest may well have been discharged/omitted through the 3 month time-lapse rule but it is likely that at least some of them were continuing to attend the hospital sporadically and unbeknown to the EPCR.

(iv) Point-prevalence of affective disorders

The next set of results refer to point prevalence of hospital treated affective disorders. These are again based on EPCR data and are diagnosis specific rates obtained from the in-patient and out-patient results described above.

Because the out-patient data do not specify depressive neurosis as a separate category all those with a diagnosis of 'neurotic disorder' in the out-patient group are included in the affective disorder category. To achieve comparability all neurotic disorders from the in-patient group (although depressive neurosis would be specified in this setting) are similarly included. The absence of neurotic disorder in the in-patient prevalence sample (according to clinical diagnosis) makes this a somewhat moot point in this context but in subsequent sections dealing with inception cases a similar approach is adopted. Comparability with community sample is another consideration (although no diagnostic distinctions in the 'cases' in the community are possible, for most purposes all 'cases' are taken together as one group). The theoretical arguments for including all neurotic disorders under affective disorders have already been well-rehearsed (see Chapter 1).

Point prevalence rates of hospital treated affective disorders (as defined above) are given in Table 5.12. Of the 76 cases, 47 (62 per cent) had a diagnosis of depressive illness/affective psychosis/mania. Point prevalence rate for this category was 107/100,000 and for neurotic disorders the rate was 66/100,000 thus giving a combined rate of 173/100,000.

The contribution of affective disorders to the total morbidity (prevalence) is substantial. Forty-five per cent of the prevlance cases had a diagnosis of affective psychosis or neurotic disorder. This was over three times the rate of schizophrenia and over four times the rate of substance abuse, the other two diagnostic categories which make significant contribution to the total treated

morbidity (Table 5.12).

The next table (Table 5.13) reveals that age specific rate of affective disorder is highest in the middle aged group (225/100,000) followed by the 55-65 age group. However, if neurotic disorders are examined as a separate category it is seen that the 18-34 group has a slight excess and this is also in contrast to the affective psychosis group. These differences are further emphasised on examining the mean ages of the two groups which are significantly different ($F = 4.9$, 1 df, $p = < 0.05$) (Table 5.14). Both affective psychosis and neurotic disorder groups show a higher rate for non-married women compared to the married, and these differences are of roughly the same magnitude (Table 5.15).

(v) General population prevalence

The first phase of the general population study was a prevalence survey. Out of 792 women eligible to be included in the study and who were contacted, 215 refused to be interviewed (27 per cent). 576 interviews were successfully completed. Out of the 576 women seen, 79 fulfilled 'caseness' criteria defined as an RDC disorder (current month, probable or definite) or level ID 5 or above according to the PSE. This gave a point prevalence (one-month) rate of 13.7 per cent. On the successful completion of the three stages of the survey, all clinical information relating to all the subjects was examined longitudinally and on the basis of RDC episodes of illness with onsets and offsets were determined and each such episode was given an RDC diagnosis. On re-examination of the study sample using

Table 5.13:

Point Prevalence of Affective Disorders in Hospital -
Age Specific Rates

Age Groups	Affective Psychosis		Neurotic Disorder		Affective Disorder (AP & ND)	
	n	Rate/ 100,000	n	Rate/ 100,000	n	Rate/ 100,000
18-34	8	41.6	13	67.7	21	109.3
35-54	24	159.0	10	66.2	34	225.2
55-65	15	156.7	6	62.7	21	219.4
All Ages	47	107.1	29	66.1	76	173.2

Table 5.14:

Point Prevalence of Affective Disorders in Hospital

Diagnostic Group	n	Range	Mean Age (yrs)	SD
Affective Psychosis	47	20–64.5	46.6	12.1
Neurotic Disorders	29	20.9–64.4	39.9	13.5
Total Affective Disorders	76	20–64.5	44.2	12.9

Table 5.15:

Prevalence of Affective Disorders in Hospital - Marital Status

Marital Status	Affective Psychosis		Neurotic Disorder		Affective Disorder (AP & ND)	
	n	Rate/ 100,000	n	Rate/ 100,000	n	Rate/ 100,000
Married	23	86.8	15	56.6	38	143.5
Single	12		10		22	
Widowed	5	137.9	1	80.5	6	218.4
Divorced/ Separated	7		3		10	
All Groups	47	107.1	29	66.1	76	173.2

the full clinical data, it was possible to re-estimate the point prevalence at the first interview. Apart from the 79 women who fulfilled case criteria at the time of the interview an additional 11 women were found to have been in RDC episodes at the time of the first interview who however achieved case-thresholds only subsequent to that point. So the point prevalence estimate in the community study is revised to include these additional 'cases' and the rate thus obtained is 15.6 per cent.

There must however remain two reservations of such a re-estimate. First, no information on those individuals recovering from an episode at the time of the first interview is available. In one sense, this group who had passed the peak of their symptoms prior to the month covered by the PAS and had some residual symptoms at the time of the assessment (but not enough to achieve 'case' threshold) is similar to the group of 11 women who went on to achieve 'threshold' case criteria subsequent to the first interview. Both groups were in episode, but we were able to confirm this only in the group followed-up. Secondly, these 11 women came from follow-up samples that were different from the original group (only 40 per cent random sample of non-cases with no risk factors in follow-up) and in addition there were losses from the follow-up sample and therefore it is likely that we would have picked up more 'cases' like these 11 cases if the original 576 women were all followed up.

Examination of the community prevalence sample reveals a number of associations with demographic factors. Although the largest proportion of cases falls into the youngest age group (18-34) the

highest rate is in the middle ages (Table 5.16). The difference, however, was not statistically significant. The variation according to marital status, on the other hand, was highly significant (Table 5.17). The prevalence rate among the divorced, separated, widowed and cohabiting women, taken as one category was more than three times the rate among single women (X^2_c = 20.6, 2 df, p <0.001).

Social class was dichotomised on the basis of Goldthorpe and Hope method (using the subject's own occupation if she was employed, and living alone or with her father, father's if unemployed and living with him and husband's if living with him). With the middle class represented by occupational group 1-22 and the working class by groups 23-36 (Goldthorpe & Hope 1974). Working class prevalence rate was over twice the middle-class rate (Table 5.18). The difference was highly significant (X^2_c = 15.6, 1 df, p <0.001).
Analysis of morbidity by employment status (Table 5.19) indicates higher prevalence among the unemployed. The employed group included those working full-time or part-time and students. The difference was again significant (X^2_c = 7.25, 1 df, p < 0.01).

The differences in case-rates are largely unaltered if the analysis is repeated using only the 79 'cases' found at the prevalence survey and the results of this along with results of other analysis looking for combined effect of demographic variables are reported elsewhere (Surtees et al 1983).

Epidemiological studies in the general population increase their relevance and their explanatory strength by looking at discrete

Table 5.16:

Community Prevalence by Age

Age Group (yrs)	No. of 'Cases'	Percentage of 'Cases'	Estimated Prevalence (%)
18-34	43	48.3	15.3
35-44	33	37.1	17.2
55-65	13	14.6	13.0
All age groups	89*	100.0	15.5

* Data missing on one 'case'.

Table 5.17:

Community Prevalence by Marital Status

Marital Status	No. of 'Cases'	Percentage of 'Cases'	Estimated Prevalence (%)
Married	47	52.8	13.5
Single	11	12.4	9.1
Others (Divorced, Separated, Widowed, Cohabiting)	31	34.8	29.5
All age groups	89*	100.0	15.5

Table 5.18:

Community Prevalence by Social Class

Social Class	No. of 'Cases'	Percentage of 'Cases'	Estimated Prevalence (%)
Middle class	34	39.5	10.1
Working class	52	60.5	22.6
All	86*	100.0	15.2

* Data missing on four 'cases'.

Table 5.19:

Community Prevalence by Employment Status

Employment Status	No. of 'Cases'	Percentage of 'Cases'	Estimated Prevalence (%)
Employed	52	58.4	12.8
Unemployed	37	41.6	22.2
All	89	100.0	15.5

Table 5.20:

Community Prevalence by RDC Diagnosis

Current RDC Diagnosis	Number of 'Cases'	Percentage of 'Cases'	Estimated Prevalence (%)
Major Depressive Disorder			
Definite	31	34.4	5.4
Probable	22	24.4	3.8
Minor Depressive Disorder			
Definite	11	13.3	2.1
Probable	1		
Panic Disorder			
Definite	2	4.4	0.7
Probable	2		
General Anxiety Disorder	21	23.3	3.6
All Diagnoses	90	100.0	15.6

psychiatric disorders as the dependent variable and the rather simple dichotomy of case/non-case distinction can obscure important differences (Weissman & Klerman 1978). For present purposes in an attempt to estimate the total prevalence of affective disorders (in particular, depressive disorders) and to achieve comparability with hospital diagnosed 'cases' in treatment such an approach would be necessary.

On the basis of cross-sectional and follow-up data, RDC diagnoses were ascribed to the 90 cases estimated in the prevalence sample. This was achieved on the basis of total clinical information and for the episode that was present during the prevalence survey a current RDC diagnosis was given. The resulting diagnostic break-down with estimated prevalence rates are given in Table 5.20. Seventy-two per cent of the 'cases' are diagnosed as depression with 82 per cent of the depression fulfilling the major depressive disorder criteria.

Nearly two-thirds (65 per cent) of the depressions were 'definite' diagnoses and the rest 'probable'. Panic disorders contributed to only 16 per cent of the anxiety group. Prevalence rates given are for individuals, using hierarchical diagnostic rules embodied in the RDC. If these rules are suspended then nearly half (43 per cent) of individuals with depressive disorder will also meet anxiety disorder criteria. The overlap between the two syndromes is further emphasised by the failure to differentiate the two groups on the basis of demographic factors. Both depression and anxiety 'cases' show similar demographic associations and they both differ from the community 'non-cases' on these variables.

Summary

Results presented in this chapter suggest that :

(1) The point prevalence of treated psychiatric disorders in the study area was nearly Ø.4 per cent compared to over 15 per cent of general population morbidity, and the hospital treated point prevalence is only 1/4Ø of the general population morbidity.

(2) Point prevalence of hospital treated affective disorders is nearly half (45 per cent) of all hospital treated morbidity and in the affective disorder group nearly half (45 per cent) are designated as suffering from affective psychoses.

(3) Nearly three-quarters (72 per cent) of the general population affective morbidity was depressive disorders

(4) There is a preponderance of middle-aged women (35-54 years) in both hospital and general population prevalence groups, and

(5) Non-married women are over-represented in the hospital prevalence group, and married women, followed by divorced, widowed or cohabiting women, in the general population prevalence group.

CHAPTER 6

INCIDENCE

It is the incidence of entry into hospital care for affective disorders that is mainly considered here. Such inception rates cannot be seen as reliable indicators of illness incidence rates but may be useful substitutes in our search for trends and associations.

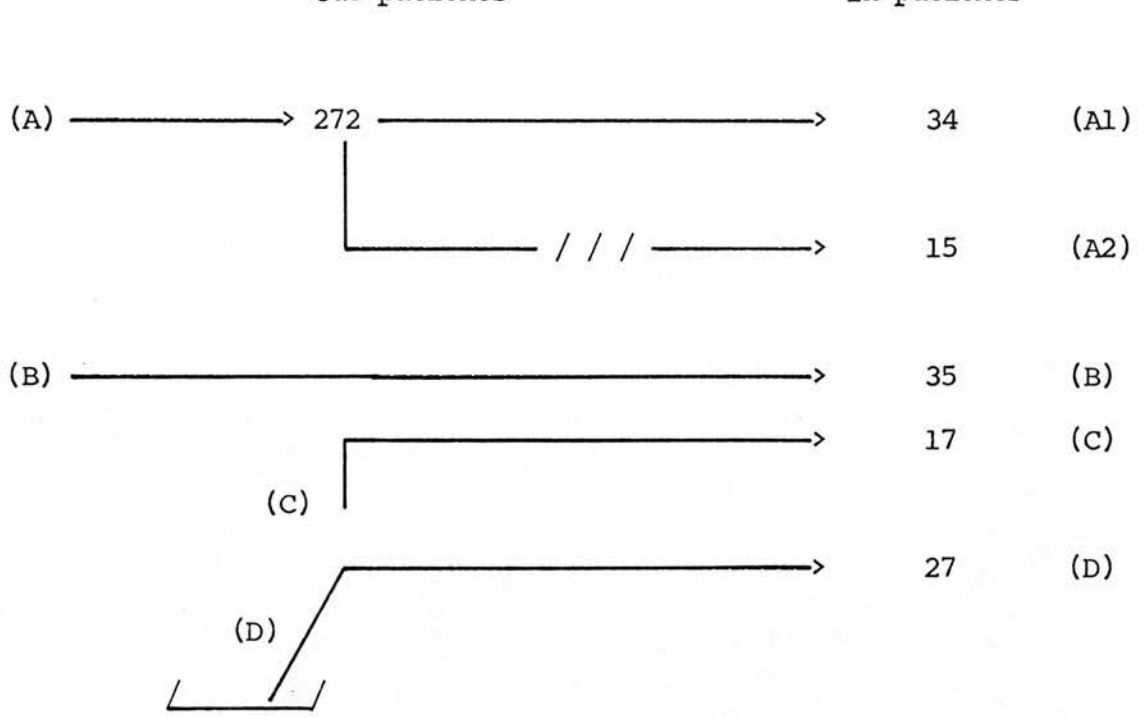
(i) Hospital inception study - inpatients, outpatients and total inception

The initial goal was to estimate the rate of inception into hospital treatment for women in the study area. Inception cases, based on a period of six months, were all those who were referred to hospital either for the first time or those, if they had had previous psychiatric treatment, had a last episode of treatment ending at least 6 months before the index admission or referral.

The inception cases (new cases) in this study were obtained from both in-patients and out-patients. The latter category here includes all new referrals to the extra-mural psychiatric services during the study period of six months. All such out-patient referrals and total hospital admissions for women aged 18 to 65 from the study area are shown in Figure 6.1.

FIGURE 6.1

SELECTION OF INCEPTION CASES



Categories : (A + B constitute the inception cases)

A. All new-cases between the ages of 18-65 from the study area referred to O.P. psychiatric services in 6 months (N = 272)
34/272 were admitted to In-patients immediately after being seen at the O.P. (A1)
15/272 were admitted after a period of treatment as out-patients, but within the study period (A2)

B. All new cases admitted directly to I.P. without out-patient consultation (n = 35)

C. Admissions from the hospital prevalence sample (n = 17)

D. Admissions to I.P. in six months of those women who were not in care (i.e. in the prevalence sample) at the start of the study but who had psychiatric treatment within 6 months of their admission (n = 27).

Table 6.1 gives the inception rates. A total of 307 individuals (272 out-patients and 35 in-patients, categories A & B from Figure 6.1) are included in this group as new-cases. This gives a population based inception rate of 699.5/100,000 per six months. The in-patient inception rate given in Table 6.1 refers only to those new cases who were admitted directly to the hospital without out-patient consultation. They form 27 per cent of all admissions (35/128) during the study period. If the 49 women from the 272 out-patients who gained admission to the hospital (categories A1 + A2 in figure 6.1, 18 per cent of new out-patients) are added to this group the admission rate for new-cases would be 191.4/100,000/6 months for the base population. Such new admissions form 66 per cent of all admissions to hospital.

Descriptive results of the in-patient and out-patient groups are included in the Appendix. Although factors which influence hospitalisation or those concerned with progression of individual cases through the two levels of care (out-patients and in-patients) are not specifically considered in this work, comparisons of out-patients and in-patients and of new-inpatients and 'old' or chronic cases could reveal some of the characteristics of such new cases picked up at different points in the pathway to care. Results of such comparisons are reported in the next chapter.

The 307 new inception cases are considered in some detail next. The mean age of this group was 39.4 years (SD 13.3).

Age specific inception rates show that the 35-54 age group had the highest rate, followed by the younger women (18 to 34) (Table 6.2).

Table 6.1:

Inception into Psychiatric Care

Type of Rate	n	Rate/100,000/6 mo.
Out-patient new inception	272	619.8
In-patient new inception	35	79.8
Total inception	307	699.5
Admission (In-patient) rate	128	291.7

Table 6.2

New Cases: Age Specific Inception Rates

Age Groups	Base Population n	Base Population %	New Cases n	New Cases %	Rate/100,000 per 6 months
18-34	19,218	43.8	134	43.6	697.3
35-54	15,097	34.4	119	38.8	788.2
55-65	9,571	21.8	54	17.6	564.2
All Age Groups	43,886	100.0	307	100.0	699.5

Table 6.3:

New Cases: Marital Status and Inception Rates

Marital Status	n	%	Rate/100,000 per 6 months
Married	142	46.3	536.1
Single	81	26.4	948.3
Widowed	27	8.8	
Divorced/Separated	42	13.7	
Cohabiting	15	4.9	
All groups	307	100.0	699.5

Table 6.4

New Cases: History of Previous Psychiatric Treatment

	IP Care		OP Care		Day Pt Care	
Previous Care	n	%	n	%	n	%
No previous care	221	72.0	196	63.8	304	99.0
6 months to 1 yr	13	4.2	24	7.8	2	0.7
1 yr to 2 yrs	13	4.2	22	7.2	-	
More than 2 yrs	60	19.5	65	21.2	1	0.3
Total	307	99.9	307	100.0	307	100.0

Table 6.5:

New Cases: Main Diagnostic Categories and Inception Rate by Diagnosis

Diagnostic Category	n	%	Inception Rate/ 100,000 per 6 months
Organic dementia	2	0.7	13.7
Other organic psychosis	4	1.3	
Schizophrenia	15	4.8	34.2
Affective psychosis	43	14.0	98.0
Other psychosis	9	2.9	20.5
Neurotic disorder	93	30.3	211.9
Personality disorder	29	9.4	66.1
Sub-normality	2	0.7	4.6
Alcohol abuse/addiction	37	12.1	84.3
Drug addiction	3	1.0	6.8
Acute reaction to stress & transient situational dist.	28	9.1	63.8
Other diagnosis	16	5.2	36.5
No psychiatric illness	26	8.5	59.2
Total	307	100.0	699.5

Non-married women were over-represented (Table 6.3) and the majority had no previous history of psychiatric care (Table 6.4). Forty-eight per cent of the 84 in-patients were first admissions and 76 per cent of the out-patients had no previous in-patient treatment. Fifty-one percent of the 307 women had no kind of previous psychiatric care (144 out of 272 out-patients and 13 out of 35 new admissions). Less than half of the new patients (41 per cent) were in gainful employment outside the household and 44 per cent were designated as 'housewives'.

The next table (Table 6.5) gives the diagnostic breakdown of the inception cases. Only one diagnosis (main diagnosis) per individual given at the time of first out-patient consultation or hospital admission is taken into account. The largest diagnostic group (30 per cent) is neurotic disorders, perhaps reflecting the preponderance of out-patients in the sample, and this is followed by the affective psychosis (14 per cent) group. (In the affective psychoses are included all the ICD 9 diagnosis, 296 and 298).

(ii) Inception of affective disorders.

Here, 136 women with a diagnosis of neurotic disorders or affective psychosis are considered. The inception into treatment rate for these categories is 211.9/100,000 per 6 months and 98/100,000 per 6 months, respectively. These taken together give an inception rate of 309.9/100,000/6 months. Or, 3 women out of every thousand women aged between 18 to 65 in the study area are referred to as new patients

with affective disorder to psychiatric services every six months and they form nearly half of all new referrals.

The average age of this group of 136 women is 40.8 years (SD 14.5) and the age-specific rates are given in Table 6.6. For affective psychosis, inception rates show a clear increase with age, the rate in the oldest group (55-65 years) is more than double that found in the youngest age group (18-34 years). In contrast, the highest rate for neurotic disorders is among younger women (18-34 years) and the age specific rates for this diagnostic category appear to follow a bimodal pattern with another elevation in rates in the 55-65 age group. The mean age of the psychosis group is 45.4 years (SD 13.9), higher than for the group of neurotic disorders, 38.7 years (SD 14.2), and this difference was significant ($F = 6.7$, $p < 0.05$).

The majority of this sample of 136 women never had any previous psychiatric care (65 per cent). In those with a previous history, again the majority had such psychiatric care more than 2 years before the index inception (Table 6.7). Nearly three-quarters of the in-patient group were first admissions.

Table 6.8 shows that for both affective psychosis and neurotic disorder, inception rates are higher in the non-married group. This is consistent with a similar trend shown earlier for all new referrals to hospital irrespective of their clinical diagnosis.

Analysis was also carried out to see whether the affective disorders inception group (in-patients n = 16 and out-patients n = 120)

Table 6.6:

Inception of Affective Disorders: Hospital Cases - Age-specific Rates

Age group (yrs)	Number of Cases				Rate/100,000/6 months			
	Affective psychosis		Neurotic disorder		Affective psychosis	Neurotic disorder	Both	
18-24	4		14				192.3	
25-29	3	11	15	46	57.2	239.4	335.5	296.6
30-34	4		17				467.4	
35-39	6		11				489.5	
40-44	3		4				194.0	
45-49	2	18	7	27	119.2	178.8	236.2	298.1
50-54	7		5				285.3	
55-59	5		9				313.7	
60-65	9	14	11	20	146.3	209.0	391.5	355.2
Total	43		93		98.0	211.9	309.9	

Table 6.7:

Inception of Affective Disorders: History of Previous Psychiatric Treatment

Last Previous Care	In-Patient Care %		Out-Patient Care %		Day Patient Care %	
	Affective Psychoses	Neurotic Disorders	Affective Psychoses	Neurotic Disorders	Affective Psychoses	Neurotic Disorders
	n=43	n=93	n=43	n=93	n=43	n=93
Never	74.4	84.9	69.8	75.3	97.7	98.9
> 6 months < 1 yr	4.7	4.3	2.3	5.4	2.3	1.1
≥ 1 yr < 2 yrs	2.3	1.1	4.7	4.3	-	-
≥ 2 yrs	18.6	9.7	16.2	15.0	-	-

Table 6.8:

Inception of Affective Disorders: Marital Status

Marital Status	Affective Psychosis		Neurotic Disorder		Rates/100,000/6 months		
	n	%	n	%	AP	ND	Both
Married	22	51.2	47	50.5	83.1	177.5	260.5
Single	8	18.6	23	24.7			
Widowed	6	14.0	9	9.7	120.7	264.4	385.1
Divorced/Separated	7	16.2	14	15.1			
Total	43	100.0	93	100.0	98.0	211.9	309.9

differed from other new inception cases (in-patients n = 19 and out-patients n = 252) and the result revealed no significant discrepancies. Amongst the in-patients, there was a trend towards more married women in the affective disorder group (63 per cent) compared to 26 per cent in the rest) but this difference did not reach significance (X^2_c= 3.2, 1 df, p < Ø.Ø7). Similarly the affective disorder group had more women with no previous psychiatric history, were more likely to have been admitted following self-poisoning or self-injury and were less likely to be detained under the Mental Health Act but these differences were not statistically significant. There was no significant age difference between the groups.

Among the out-patient group, there were more separated and divorced women and fewer single women with affective disorder when compared to the other new out-patients, but the differences were not significant. There was no difference in the source of referral to hospital (from general practitioners, police, social work department or self) for the groups. The affective disorder group among the out-patients differed from other new out-patients on three variables. They were older women (mean age for affective disorder group 4Ø.3, SD 14.2, others 37.2 years. SD 12.1, F = 3.9, df 1, p < Ø.Ø5) were less likely to have had previous psychiatric care (67 per cent with no care compared to 42 per cent, X^2_c = 15.2, df = 1, p < Ø.ØØØ1), and were more likely to have received immediate psychiatric follow-up or admission to hospitals (disposal after first contact).

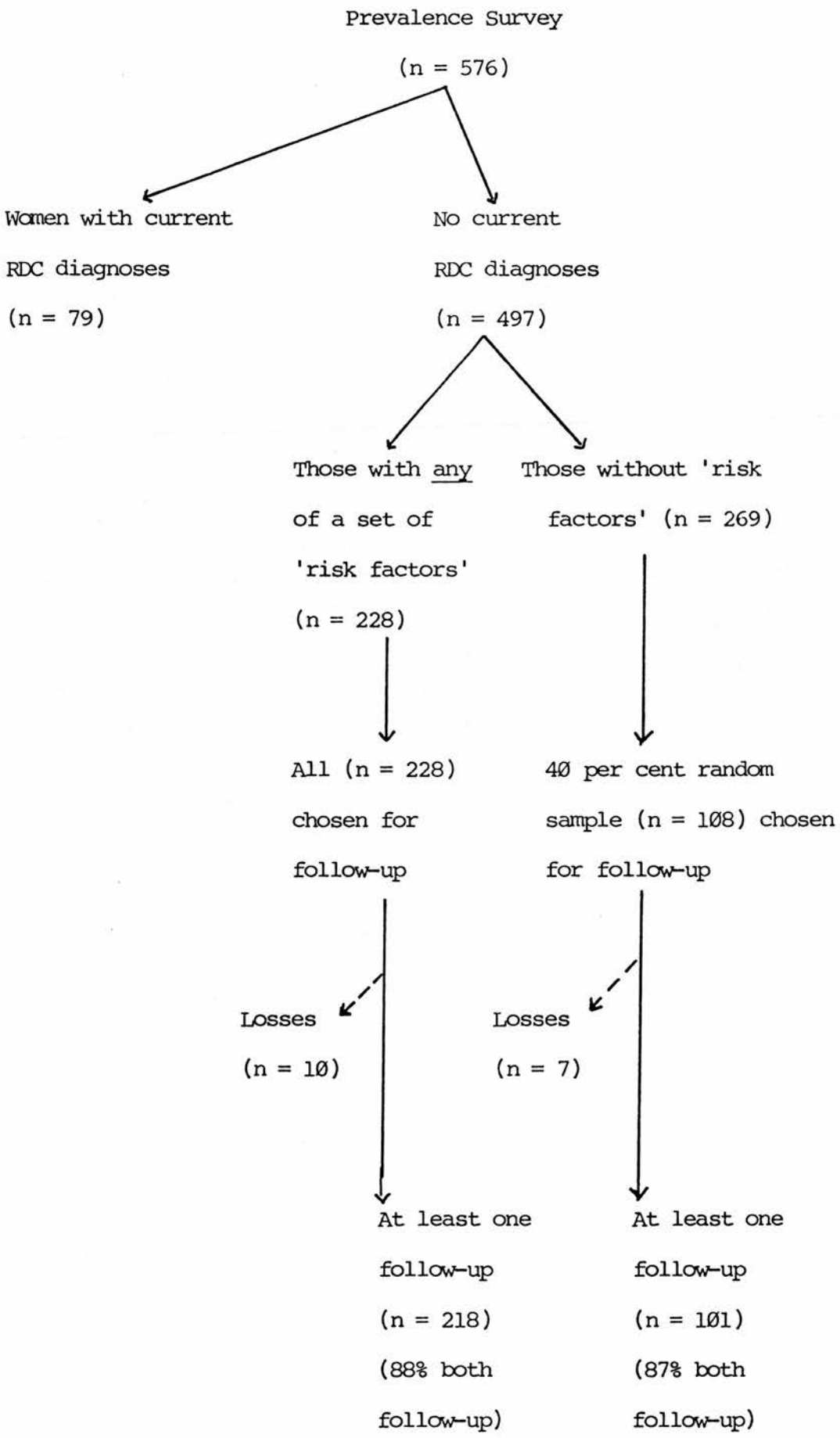
Thirteen per cent of affective disorders were admitted to hospital

immediately after the first out-patient contact (compared to 10 per cent of others), 78 per cent to have received other psychiatric follow-up (59 per cent of the rest). Only 8 per cent of the affective disorder group did not receive psychiatric follow-up while 31 per cent of others were discharged or placed on a waiting list (X^2_c = 20.67, 2 df, $p < 0.001$). Social class data for the inception patients was not available from the EPCR.

(iii) General population inception (incidence)

Incidence of 'cases' in the general population was obtained from the follow-up of women seen at the prevalence survey. The limitation of the design of the population survey must be borne in mind in considering inception rates calculated on this basis. Ideally, inception rates must be obtained by continuously observing a random sample of the population over a specified period of time. In our survey only a stratified sample was followed up and in addition there were losses from the groups followed-up. The design and the details of the follow-up of the 'non-case sample' are given in Figure 6.4. Of the original sample free of RDC disorder (n = 497) follow-up information was obtained on 319 women (65 per cent) which is 95 per cent of the sample chosen for follow-up. After excluding the 11 women from this follow-up sample who were given a diagnosis of RDC disorder and whose onsets pre-dated the first interview (and who were considered in the prevalence sample) there were 35 new onset cases of RDC disorder identified during the follow-up. These women fulfilled the RDC criteria for any psychiatric disorder (covered by the PAS) at some time during the follow-up and such episodes had an

Figure 6.4


Prevalence Survey
(n = 576)
Women with current RDC diagnoses (n = 79)
No current RDC diagnoses (n = 497)
Those with any of a set of 'risk factors' (n = 228)
Those without 'risk factors' (n = 269)
All (n = 228) chosen for follow-up
40 per cent random sample (n = 108) chosen for follow-up
Losses (n = 10)
Losses (n = 7)
At least one follow-up (n = 218) (88% both follow-up)
At least one follow-up (n = 101) (87% both follow-up)

onset after the first (prevalence) interview.

These 35 cases were identified during the follow-up period which varied for the individuals in this sample (through losses) although the majority (88 per cent) had a period of one year as an observation period. Because of the design of the follow-up (only 40 per cent of non-cases with no risk factors at first interview were included in the follow-up sample, differential attrition rates in groups) and also because of the variable time period available for each individual it would be erroneous to calculate an inception rate using the 308 women (319-11 women who were 'cases' pre-dating the first interview) as the denominator. By appropriate weighting back to the parent samples (risk factor present or not) and after making allowance for variations in the follow-up period, an annual inception rate of 11.4/100 women is obtained.

Unlike in the prevalence sample, disease rates by demographic factors (e.g. age, marital status, etc) are not provided because the denominator in such calculations would not be representative of general population sub-groups (follow-up samples were stratified sub-samples based on the presence of risk factors) and also because of the variable follow- up period covered for individual subjects.

Table 6.9 shows the RDC diagnoses achieved by these women. The majority of cases (66 per cent) fulfilled criteria for major or minor depressive disorder and 34 per cent received a primary diagnosis of generalised anxiety disorder or panic. Most of the depressives (80 per cent of major depressions and 20 per cent of minor depressions)

Table 6.9:

General Population Inception Cases: RDC Diagnoses

RDC Diagnoses	n	%
Definite Major Depressive disorder	6	17.1
Probable Major Depressive disorder	11	31.4
Definite Minor Depressive disorder	3	8.6
Probable Minor Depressive disorder	3	8.6
Panic disorder	1	2.9
General Anxiety disorder	11	31.4

also fulfilled the criteria for generalised anxiety disorder, but, under the hierarchical rules of RDC system, received the current diagnosis of major/minor depression. All the diagnoses were based on total symptom count and severity over the whole episode of illness.

Summary

(1) Inception of new cases into treatment was studied by examining referrals to psychiatric services in a period of six months.

(2) The total inception rate for 6 months was Ø.7 per cent (over 1 in 1ØØ if annualised) and this compared with 11.4 per cent annual inception rate as found in the general population study.

(3) There was a preponderance of 35-54 year old women, and those who were divorced, separated, widowed and single among new referrals to treatment.

(4) One-third of all new referrals were designated as suffering from neurotic disorders and 14 per cent from affective psychosis.

(5) The age-specific inception rates of neurotic disorders and affective psychosis showed that the rates for neurotic disorders had a bimodal distribution with peaks in the 18-34 age group and 55-65 years and that for affective psychosis following a clear increase with age.

(6) When neurotic disorders and affective psychosis are combined

(affective disorders group) and compared with the remainder of all new referrals, (i) among in-patients they were more likely to be married women and admitted following self-injury or self-poisoning and (ii) among out-patients, more likely to be separated or divorced, of older age and were more likely to be admitted to hospital after the initial consultation.

(7) Annual inception rate of affective disorder among the general population was 11.4 per cent and the majority (two-thirds) of community inception cases had depressive disorder.

CHAPTER 7

COMPARISON OF CASES

Results presented in this chapter are concerned with various comparisons between 'cases' identified in the hospital setting and in the general population and also between 'prevalence cases' and 'onset cases' within each setting. The two relevant questions on which these results have a bearing are :

(i) What are the differences between 'acute' and 'chronic' cases distinguished on the basis of duration of symptoms? and

(ii) What distinguishes hospital treated affective disorders from those found in the general population?

These themes will be considered in greater detail in Part II of the results (based on detailed interviews) but here, general comparisons are made and these largely rely on EPCR data and equivalent information from the community sample.

A direct comparison of all inception and prevalence 'cases' in the hospital or in the community setting would be somewhat misleading. Although all the hospital inception cases are by definition 'new cases' these refer to the inception into treatment rather than inception of illness. For present purposes the assumption that inception into treatment reflects onset of illness is made, but it would be misleading to suggest that, conversely all prevalence cases

are 'chronic' cases. The prevalence sample, as shown in Chapter 5 (see Fig. 5.1, 5.2 for example) comprises of those who had been ill (in treatment) for some months as well as those with more recent inceptions. In the general population prevalence sample, similarly there is a mixture of recent onset and chronic 'cases' and here the time since illness onset (episode onset) is taken into account. Only 35 of the 90 community prevalence cases (38.9 per cent) had an onset in the six months before the interview.

Therefore, only the following comparisons are made, in this chapter.

1. Hospital cases

(a) Between inception cases and prevalence cases who had been in care for longer than six months

(b) In those admitted to hospital, between inception cases and 'old' cases (those who had at least one episode of contact in the previous six months).

2. Community cases

(a) Between onset cases as identified in the follow-up (n = 35) with onset cases (n = 35) (with an onset in the six months pre-interview) and 'chronic cases' (n = 55) (with an onset outside the six months before the interview) as identified in the prevalence survey.

3. Comparisons between in-patients, out-patients and community cases.

(a) Between 49 in-patients who were admitted to hospital from 272 new out-patient referrals in the six months study period and the remainder (n = 223)

(b) Between hospital cases and community cases.

Comparisons (1) and (2) are on the basis of duration of episode (or treatment) which will illustrate the differences between cases according to their chronicity while comparison (3) is across settings, in-patients-out-patients-general population, which will serve to emphasise the differences between cases found in treatment settings and general population.

1 (a) Comparison between inception cases and prevalence cases in the hospital sample

As suggested above, a direct comparison of all prevalence cases with inception cases would obscure any differences according to duration of episodes as the former category (prevalence) contains both recent onset cases and more chronic cases. Therefore, the prevalence sample is sub-divided into those who had been in treatment for less than six months and the more chronic patients. Although both in-patient and out-patient samples are combined those with a diagnosis other than affective disorder are excluded.

Comparison groups are :

(i) Chronic prevalence cases as defined above (Group A, n = 29)

(ii) Group B or those who had been in treatment for less than 26 weeks from the prevalence sample (n = 47), and

(iii) Group C consisting of inception cases identified during the study period (n = 136).

Only patients with a project diagnosis of affective disorder are included.

Table 7.1a shows the effect of age on the duration of treatment. In both prevalence groups (those who had been in treatment for longer than six months and the rest) the highest proportion of cases are in the 35-55 age group while in the more recent onset cases the younger age group (18-34) contributes the most to the total number of cases. There are also far more older patients (55-65 years) in the chronic patient group (Group A) than in the onset groups (Groups B and C). The differences are non-significant.

Table 7.1b examines marital status in relation to duration of treatment in hospital treated affective disorders. Married women make up most of the cases and this is true in all three categories. Fewer divorced, separated, widowed women are in treatment after 6 months (Group A), although this difference is not statistically

Table 7.1a

Comparison of Hospital Prevalence and Inception Cases: Age Groups

Age Group (yrs)	Group A Chr. Prevalence		Group B Onset Prevalence		Group C Inception	
	n	%	n	%	n	%
18-34	8	27.6	14	29.8	57	41.9
35-54	11	37.9	19	40.4	45	33.1
55-65	10	34.5	14	29.8	34	25.0
Total	29	100.0	47	100.0	136	100.0

Table 7.1b

Comparison of Hospital Prevalence and Inception Cases: Marital Status

Marital Status	Group A Chr. Prevalence		Group B Onset Prevalence		Group C Inception	
	n	%	n	%	n	%
Married	16	55.2	22	46.8	69	50.7
Single	9	31.0	13	27.7	31	22.8
Divorced Separated Widowed Cohabiting	4	13.8	12	25.5	36	26.5
All	29	100.0	47	100.0	136	100.0

significant.

There is a significant difference in diagnosis between those who have been in treatment for over 6 months (Group A) and 'onsets' in the prevalence sample (Group B). Sixty-two per cent of the chronic patients are designated as affective psychosis while only 38 per cent of the 'onset' prevalence cases are so diagnosed (X^2 = 4.Ø6, 1 df, p < Ø.Ø5). This difference is further underlined if inception cases (Group C) are divided according to diagnosis and this shows that, like acute onset cases in the prevalence sample, over 6Ø per cent (68.4 per cent) of this group are suffering from neurotic disorder. The difference from Group A is similarly significant (X^2 = 8.2, 1 df, p < Ø.Ø1).

1 (b) Comparison between 'new' in-patients and 'old' in-patients

Of the 128 individuals admitted to hospital during the study period, 84 were 'new' cases and 44 'old' cases. The groups are referred to as Categories A + B ('new cases') and C + D ('old cases') in Figure 6.1. New cases were either first ever admissions (4Ø out of 84) or first ever contact with psychiatric services or if they had previous admissions or contact (26 out of 84) that took place at least six months before the index admission. 'Old cases' on the other hand were those who had been in treatment prior to the index admission or treatment episode leading to the admission. These were verified using the EPCR and case-notes.

The first set of analysis included all the patients in the two

groups, irrespective of their diagnosis. Their mean ages (41.8 years, SD 13.Ø8, for new cases and 41.5, SD 12.8, for old cases) were almost identical and they were similarly distributed in the three age groups, 18 to 34, 35 to 55 and 55+ years, with nearly half of each group falling in the 35 to 55 year age band. There were no differences according to status of admission (formal or informal) or according to injuries and poisoning prior to admission. Forty per cent of the new-patients and 23 per cent of the old patients were referred to the hospital immediately prior to their admission and about one-third (31 per cent and 32 per cent) from each group were admitted from the out-patient clinic. Other factors examined included living group of patients and work status and the groups did not differ significantly on these variables.

The two significant differences between the groups were in marital status and social class and are shown in Table 7.2. Only 7 out of the 44 old cases (16 per cent) were married women while 36 out of the 84 new cases (43 per cent) were married and this differences was significant (X^2_c = 8.23, 1 df, p < Ø.ØØ5). Single women (48 per cent) constituted the largest group among 'old' patients, and both groups had similar proportions of separated, divorced, widowed or co-habiting women. The distribution of cases in the social class categories (I to V) was significantly different (X^2_c = 1Ø.79, 4 df, p < Ø.Ø3) but if the categories are collapsed to give a dichotomous variable (middle class I, II & IIIN) and working class (IIIM, IV and V) there is still a trend towards more working class women in the new case sample (39 per cent against 3Ø per cent) but the difference is no longer significant.

Diagnostic differences between the two groups are apparent from Table 7.3. The majority of 'old' cases are, as would be expected, have a diagnosis of psychosis (including manic depressive illness) (64 per cent) while less than half (45 per cent) of the 'new' cases fall into this catetory. Alcoholism, drug abuse and neurotic disorders dominate this latter group and if substance abuse disorders and mental retardation (from other conditions) are excluded from the non-neurotic group, individuals with minor psychiatric disorders form 35 per cent of 'new' patients while they contribute to only 18 per cent of the 'old' patients.

If only those with a diagnosis of affective disorder including neurotic disorders (ICD-8 diagnoses 296, 298.0, 300, 311 and 309) are selected from the samples for comparison (17/44 i.e. 39 per cent of old cases and 46/84 i.e. 55 per cent of new cases) the difference between the groups is significant only for marital status (X^2_c = 6.06, 2 df, $p < 0.05$) with the social class difference (Table 7.4) appearing to be minimal and not statistically significant.

2. Comparison between 'onset' cases and 'chronic' cases in the community

Here an 'onset' case is defined as someone fulfilling the RDC requirement for a current disorder with an onset of the current episodes starting within 26 weeks of the time of assessment (interview). 'Chronic' cases are those with a longer duration of episode. The start of an episode was defined as 'onset of key symptoms (depression, loss of interest, anxiety) or onset of a

Table 7.2:

Comparison between 'New' and 'Old' In-Patients

Factor	All 'New' Cases n = 84		All 'Old' Cases n = 44	
	n	%	n	%
Marital Status				
Single	15	17.9	21	47.7
Married	36	42.9	7	15.9
Other (separated, widowed, divorced, cohabiting)	33	39.2	16	36.4
Social Class				
I	8	9.5	-	-
II	10	11.9	9	20.5
III N	33	39.3	22	50.0
III M	12	14.3	9	20.5
IV	21	25.0	4	9.0
V				

Table 7.3:

Comparison between 'New' and 'Old' In-Patients: Main Diagnosis

Clinical Diagnosis	All 'New' Cases n = 84		All 'Old' Cases n = 44	
	n	%	n	%
Organic psychosis	3	3.6	2	4.5
Schizophrenia	7	8.3	7	15.9
Affective psychosis	27	32.1	14	31.8
'Other' psychosis	1	1.2	5	11.4
Depressive neurosis	9	10.7	2	4.5
'Other' neurosis	7	8.3	1	2.3
Personality disorder	3	3.6	1	2.3
Alcohol/Drug abuse	14	16.7	4	9.1
Other conditions	13	15.5	8	18.2
All	84	100.0	44	100.0

Table 7.4:

Comparison of 'New' and 'Old' In-Patients with a Diagnosis of Affective Disorder

Factor	'New' Cases n = 46		'Old' Cases n = 17	
	n	%	n	%
Marital Status				
Single	10	21.7	8	47.1
Married	23	50.0	2	11.8
Other (separated, divorced, widowed, cohabiting)	13	28.3	7	41.2
Social Class				
I	5	10.9	-	-
II	3	6.5	4	23.5
III N	18	39.1	6	35.3
III M	7	15.2	5	29.4
IV	13	28.3	2	11.8
V				

'change in normal self' after a period of at least 2 months of 'being like the usual self'. If there was a previous episode the current episode was distinguished from it only if there was a period of 2 months of well-being (as required by RDC) after recovery from the previous episode.

Out of the 90 'cases' who were 'in episode' during the prevalence survey, 35 were thus designated as 'onset' cases. From the group of 'non-cases' followed up, all those women identified as having an 'onset' after the prevalence survey and fulfilling the RDC requirements for 'caseness' formed the second 'onset' group (n = 35). The two 'onset' groups are considered separately because the parent samples from which they were derived were not identical, the follow-up sample being a stratified sub-sample of the prevalence sample (see Figure 6.3).

The three groups are referred as :

(i) Group A. Prevalence-chronic cases
(ii) Group B. Prevalence-onset or acute cases, and
(iii) Group C. Onset cases found in follow-up.

Table 7.5 gives the RDC diagnoses (current) for the three groups. The majority of cases appear to be depressive disorders and the ratio between main diagnoses of depression and anxiety/panic in all three groups is nearly 3 to 1.

There are, proportionately, more anxiety/panic cases in Group C (onsets-follow-up) but the ratio between major and minor depressions

Table 7.5:

Comparison of Community 'Cases': RDC Diagnoses

RDC Diagnoses (Current)	GROUP A Prevalence - Chronic Cases		GROUP B Prevalence - Onset Cases		GROUP C Follow-up - Onset	
	n	%	n	%	n	%
Major Depressive Disorder						
Definite	25	45.5	6	17.1	6	17.1
Probable	8	14.5	14	40.0	11	31.4
Minor Depressive Disorder						
Definite	7	12.7	4	11.4	3	8.6
Probable	-		1	2.9	3	8.6
Panic Disorder						
Definite	1	1.8	1	2.9	-	
Probable	2	3.6	-		1	2.9
Generalised Anxiety Disorder	12	21.8	9	25.7	11	31.4
All	55	100.0	35	100.0	35	100.0

is again very similar in the three groups with over three-quarters of depressions fulfilling the major depression criteria. Whether there is any difference in the severity of disorders between the groups is difficult to say on the basis of such distribution of diagnosis. However, one observation of interest here would be that a greater proportion of cases diagnosed as depressions in the chronic group (Group A) are RDC definite cases (80 per cent) while definite depressions form less than half of the depressions in the onset groups B + C (40 per cent and 39 per cent respectively).

Next, the variations in the associations between these three groups of community cases and selected demographic factors are considered. All tabulated material refer to comparisons across the three groups but where appropriate analysis is repeated for differences between two groups.

In all three groups there is a preponderance of married women followed by separated, widowed, divorced and cohabiting women (Table 7.6). The trends are similar in all three groups. Amongst the 'chronic' group (Group A) there are fewer single women (7 per cent) while the other two groups have 17-20 per cent cases in this category.

There were no marked differences in the age distribution with all three groups showing a higher proportion of the younger and middle-aged groups than women over 55 years. In both onset prevalence cases and the follow-up onset groups (Groups B + C) there were more women of 18-34 years than the middle-aged but in chronic cases (Group A) there was a slight excess of women aged 35-54 (Table 7.7).

Table 7.6:

Comparison of Community 'Cases': Marital Status

Marital Status	GROUP A Prevalence - Chronic Cases		GROUP B Prevalence - Onset Cases		GROUP C Follow-up - Onset	
	n	%	n	%	n	%
Single	4	7.4	7	20.0	6	17.1
Married	29	53.7	18	51.4	16	45.7
Other (widowed, separated, divorced, cohabiting)	21	38.9	10	28.6	13	37.1
Total	54*	100.0	35	100.0	35	100.0

*Data on one case missing.

Table 7.7:

Comparison of Community 'Cases': Age Groups

Age Groups (yrs)	GROUP A Prevalence - Chronic Cases		GROUP B Prevalence - Onset Cases		GROUP C Follow-up - Onset	
	n	%	n	%	n	%
18-34	23	42.6	20	57.1	21	60.0
35-55	24	44.4	9	25.7	11	31.4
55+	7	13.0	6	17.1	3	8.6
All ages	54	100.0	35	99.9	35	100.0

Table 7.8:

Comparison of Community 'Cases': Social Class

	GROUP A		GROUP B		GROUP C	
	Prevalence - Chronic Cases		Prevalence - Onset Cases		Follow-up - Onset	
Social Class	n	%	n	%	n	%
Middle class	18	34.6	16	47.1	22	62.9
Working class	34	65.4	18	52.9	13	37.1
All	52	100.0	34	100.0	35	100.0

A lower proportion of Group A (chronic cases) was in employment than those in two onset groups. Fifty-two per cent of Group A were employed compared to 69 per cent of onset-prevalence cases and 63 per cent of onsets follow-up (Groups B + C). The difference was not significant.

Social class composition of the three groups also shows some variation although the differences are not statistically significant (Table 7.8). Data was missing on two cases, one from the chronic prevalence group (A) and another from onset prevalence group (B). On the basis of Goldthorpe & Hope occupational classes, middle-class and working-class categories were derived and the three groups of cases show somewhat different division between the two categories. Group A (chronic prevalence) shows a clear preponderance of working class women while recent onsets from the prevlance sample (Group B) are more or less equally distributed in middle and working classes. Onsets occurring in the follow-up period show a greater proportion of middle-class women than working-class women and this is in spite of the fact that being working-class was considered as one the putative risk factors and all such women who were non-cases at the prevalence survey were followed-up.

The above comparisons were primarily aimed at examining the effect of duration of symptoms or episode on the association between such conditions and selected demographic factors and, as has been demonstrated, there is little variation as a result, especially after the diagnostic differences have been controlled for as in hospital cases or when the diagnostic diversity is minimal as in the community setting. The next set of comparisons focuses on the effect of the

context within which cases are identified. The important question here is: what is the difference between hospital and community cases in terms of clinical diagnosis and in its relationship with selected demographic factors? First, however, a comparison of cases further along the same dimension, i.e. out-patients and in-patients is attempted.

3(a) Comparison between hospital in-patients and out-patients

272 new out-patients were identified during the six month study period. From Figure 6.1 it can be seen that 49 of these 272 cases (18 per cent) were admitted as in-patients during the same period. It is almost certain that more from the original 272 cases would become in-patients (especially from among those referred towards the latter stages of the study) if the observation period were to be extended. Within the limitations of the present design, however, the two groups, 49 out-patients who became in-patients and the rest (223 cases) who remained as out-patients, could be compared to elicit the differences between the in-patient group and out-patient group.

In the first set of analysis, when all the patients irrespective of their diagnosis are compared in two groups (admission n = 49 and out-patients n = 223), the only significant differences between the groups were the type of referral to the clinic, the diagnostic distribution in the groups and, as would be expected, the outcome of the initial consultation. Over half of the patients who were admitted (53 per cent) were emergency referrals (defined as referrals without prior appointment and out-of-hours referrals) whilst only 21

per cent of the 223 out-patients who were not admitted were so referred (Table 7.9) (X^2 = 19.3, 1 df, p < Ø.ØØ1). Twenty-seven per cent of those who were admitted were seen as emergencies in out-of-hours while only 5 per cent of the group that was not admitted had their initial consultation outside the normal clinic hours. In spite of the fact that a greater proportion of admitted patients were seen as emergencies, equal proportions from the two groups (nearly 8Ø per cent) were referred to the clinic through the involvement of a medical practitioner. Nearly a quarter of the 223 out-patients were either discharged or placed on a waiting list compared to 6 per cent of those admitted. This 6 per cent (3 patients) were subsequently admitted.

There were no significant differences in the age, marital status or previous psychiatric history of the two groups. The initial diagnoses accorded to these patients showed some variation (Table 7.1Ø). The major diagnostic category in those admitted was affective psychosis (29 per cent) followed by neurotic disorder (22 per cent) while over one-third of those not admitted had neurotic disorder (35 per cent) and over 2Ø per cent of this group had either no psychiatric illness according to the clinicians or a label of 'situational disturbance'. Over half (51 per cent) of those admitted had psychotic conditions while only 14 per cent of those not admitted had a similar diagnosis.

If the variability due to diagnostic differences between the two groups is controlled for by comparing only those with an initial diagnosis of affective psychosis or neurotic disorder, the picture does not alter very much. Out of the 12Ø patients from the 272 out-

Table 7.9:
Comparison of Out-Patients who became In-Patients and those who were not admitted - Type of Referral and Outcome

Factor	OP Not Admitted		OP Admitted	
	n	%	n	%
Type of referral				
Routine	176	78.9	23	46.9
Emergency	47	21.1	26	53.1
Immediate disposal				
Admission	-	-	34	69.4
OP follow-up	169	75.8	12	24.5
Discharge/Waiting List	54	24.2	3	6.1

Table 7.10:
Comparison of Out-Patients who became In-Patients and those who were not admitted - Diagnoses

Initial Clinical Diagnoses	OP Not Admitted		OP Admitted	
	n	%	n	%
Organic condition	3	1.3	2	4.1
Schizophrenia	6	2.7	5	10.2
Affective psychosis	18	8.1	14	28.6
'Other' psychosis	4	1.8	4	8.2
Neurotic disorder	77	34.5	11	22.4
Alcoholism	29	13.0	2	4.1
Personality disorder	25	11.2	2	4.1
Situational dist.	22	9.9	2	4.1
Other diagnosis	13	5.8	6	12.2
No psychiatric illness	26	11.7	1	2.0
All	223	100.0	49	100.0

patients (44 per cent) had either one of the above diagnostic labels and 25 of them were admitted and 95 remained as out-patients. The only significant differences between the two groups are the type of clinical referral and the outcome of consultation. The same applies to comparisons of affective psychosis and neurotic disorder diagnoses carried out separately in those who gained admission against others who did not.

3(b) Comparison between hospital cases and community cases

Unlike the comparison between hospital in-patients and out-patients contrasting hospital cases (out-patients and in-patients taken together) and community cases would be expected to show major differences. Here, first the prevalence cases from the community are contrasted with hospital prevalence cases and secondly a similar exercise is undertaken with inception cases. In both sets of comparison only hospital patients in the broad diagnostic category of affective disorder (i.e. affective psychosis and neurotic disorder) are included because community cases have diagnoses limited to these diagnostic categories (confined to depression and anxiety).

(i) Prevalence cases

Two comparisons are provided; on age and marital status. Table 7.11 shows the distribution of the prevalence cases in three age groups along with age specific point prevalence rates. Community cases have a greater proportion of younger women than the other age groups and

in hospital patients the largest number of cases are in the middle age group (35-54 years). However, when age specific rates are calculated it is obvious that the highest prevalence in both hospital and community cases is between 35-54 years. The difference in prevalence rate between the age groups is more marked in the hospital setting with the 35-54 age group showing double the rate for the 18-34 age group.

The prevalence cases in hospital and the community also apear to be similar in their association with marital status (Table 7.12). Rates for non-married women (single, divorced, widowed, separated and co-habiting) are decidedly higher than that found in married women. Compared to this last group, proportionately there are more married women among the cases in both settings but their rates are much lower. Separate rates for widowed, divorced, separated women in the hospital setting could not be calculated because no reliable denominator figure was available.

From Table 7.12 it would appear that more single women are likely to be included in the hospital group, as mentioned earlier (Table 5.16); single women had the lowest prevalence rate (9.1 per cent) in the community.

Because of the very small numbers in the hospital sample social class distribution in affective disorders is not considered here. This was because no social class data was available from EPCR for out-patients and there were only 12 in- patients in the prevalence sample with a diagnosis of affective psychosis or neurotic disorder. Five out of twelve (41.7 per cent) were working-class (according to Goldthorpe &

Table 7.11:
Comparison of Hospital and Community 'Cases' - Prevalence by Age

Age Groups (yrs)	Hospital 'Cases'			Community 'Cases'		
	n	%	Rate/10^5	n	%	Rate/10^5
18-34	21	27.6	109.3	43	48.3	15,300
35-54	34	44.7	225.2	33	37.1	17,200
55-65	21	27.6	219.4	13	14.6	13,000
All	76	99.9	173.2	89	100.0	15,500

Table 7.12:
Comparison of Hospital and Community 'Cases' - Prevalence by Marital Status

Age Groups (yrs)	Hospital 'Cases'			Community 'Cases'		
	n	%	Rate/10^5	n	%	Rate/10^5
Married	38	50.0	143.5	47	52.8	13,500
Single	22	28.9	218.4	11	12.4	18,600
Others (Widowed, Divorced, Separated, Cohabiting)	16	21.1		31	34.8	
All	76	100.0	173.2	89	100.0	15,500

Hope classification) while 61 per cent of the community cases were working-class women.

In terms of diagnosis, 72 per cent of cases of community cases were probable/definite major/minor depressions. An equivalent category in the hospital sample is not available but in the combined affective disorders category, 61 per cent had an affective psychosis diagnosis and the remainder were neurotic disorders within which the proportion of depressive neurosis could not be specified. Among the in-patients (n = 12) there were two cases of manic disorder and one individual with schizo-affective disorder (primary affective) and such diagnoses were absent in the general population.

It has been repeatedly emphasised by many authors that some of the differences between community 'cases' and hospital 'cases' could be attributed to the duration of episodes. In cross-sectional comparisons it is argued that community cases tend to be of longer duration and that hospital cases in contrast are of more recent onset. Comparison of duration of episodes in the prevalence samples, between hospital and community is shown in Figure 7.1. These refer only to those with a diagnosis of affective disorder and in the hospital sample the duration of in treatment is taken as an approximation of duration of episodes. It is almost certain that, as a result, the duration of episodes in this group is underestimated. If this definition of episode duration is taken into account, then it shows that half of the cases seen in hospital have been in episode for less than 16 weeks while nearly 70 per cent of the community cases have episodes lasting longer than 16 weeks, as measured from the date of interview.

(ii) Inception cases

Here the comparison is between the 136 hospital patients with a diagnosis of affective psychosis or neurotic disorder (43 and 93 in each group) who were considered as new inceptions (and drawn from 307 new cases) in a period of six months, with 35 new cases identified during the 12 month follow-up of the community sample. Rates are not calculated for comparison because of particular problems with the derivation of the 35 community onsets.

By comparing the two groups it can be seen (Table 7.13) that 60 per cent of the community onset cases and 42 per cent of hospital onsets lie in the 18-34 age band, and this is the age group with the highest proportion of cases. Nearly one-third of cases in both settings come from the 35-54 age group and many fewer from the oldest (55+) age group. A quarter of the hospital cases of affective disorder are aged 55 or over but less than 1 in 10 of the community onset cases are from this age group.

The proportions of subjects who are married in the two groups appear to be similar in spite of the fact that hospital cases tend to be older. Fifty-one per cent of the newly referred cases and 46 per cent of the community onsets are married women and the lowest proportions of cases in both settings are among single women (23 per cent and 17 per cent) (Table 7.14). There is an excess of women who are divorced, separated, widowed or co-habiting in the community sample when compared to hospital new cases.

If the in-patients in the hospital inception sample are taken

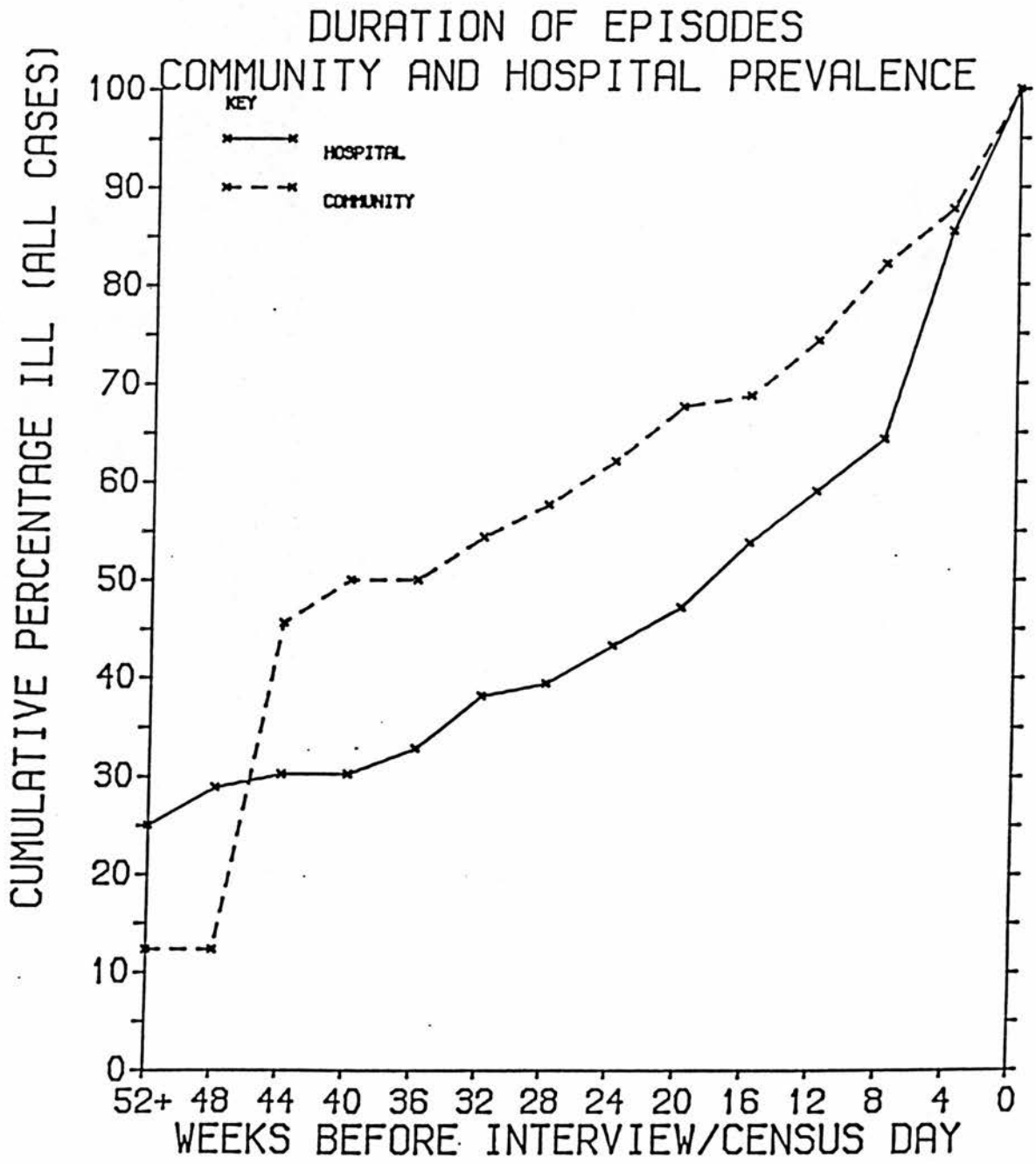
Table 7.13:
Comparison of Hospital and Community 'Cases' - Inception Cases by Age Groups

Age Groups (yrs)	Hospital 'Cases'		Community 'Cases'	
	n	%	n	%
18-34	57	41.9	21	60.0
35-44	45	33.1	11	31.4
55-65	34	25.0	3	8.6
Total	136	100.0	35	100.0

Table 7.14:
Comparison of Hospital and Community 'Cases' - Inception Cases by Marital Status

Marital Status	Hospital 'Cases'		Community 'Cases'	
	n	%	n	%
Married	69	50.7	16	45.7
Single	31	22.8	6	17.1
Divorced, Widowed, Cohabiting	36	26.5	13	37.1
Total	136	100.0	35	100.0

Figure 7.1:


DURATION OF EPISODES
COMMUNITY AND HOSPITAL PREVALENCE
KEY
HOSPITAL
COMMUNITY
CUMULATIVE PERCENTAGE ILL (ALL CASES)
100
90
80
70
60
50
40
30
20
10
0
52+ 48 44 40 36 32 28 24 20 16 12 8 4 0
WEEKS BEFORE INTERVIEW/CENSUS DAY

separately more comparisons with the community sample are possible. Here only new in-patients with a diagnosis of affective disorder are included in the hospital inception sample (n = 46). The community inception sample remains the same. Tables 7.15 and 7.16 show the greater diagnostic diversity among the affective disorders in hospital in-patients in comparison to community cases.

Manic disorders are absent in the community but depressive disorders contribute to nearly 75 per cent of all affective disorders in the hospital sample and 65 per cent in the community. Over one-third of the community cases have a primary diagnosis of anxiety. Although 15 per cent of new in-patients with affective disorder have a diagnosis of neurosis (other than depression) the diagnostic classes to which they are assigned are more varied and are rare in the community.

The similarity between community cases and hospital cases in the age distribution is less marked if only new in-patients with affective disorders are included in the hospital sample. In Table 7.13 it was shown that the largest proportion of hospital cases (when out-patients and in-patients were taken together) was in the 18-34 age group, a distribution similar to that found in the community. Table 7.17 shows that when in-patients alone were compared with community cases, the picture changes somewhat with hospital new cases being largely in the 35-54 age group (46 per cent). By taking only the in-patients, the marital status distribution does not show appreciable change in this group compared to all hospital cases. Half of the in-patients are married women and 22 per cent are single, almost identical with that found when the combined in-patient/out-patient

Table 7.15

Clinical Diagnosis among New In-Patients with Affective Disorder

Diagnosis		New In-Patients	
ICD.9 Code	Clinical Diagnosis	n	%
296.0	Manic Depressive - manic	4	8.7
296.1	Manic Depressive - depressed	15	32.6
296.2	Manic Depressive -circular manic	1	2.2
296.6	Manic Depressive - unspecified	1	2.2
296.9	Affective Psychosis Nos.	5	10.9
298.0	Reactive Depressive Psychosis	1	2.2
300.1	Hysteria	1	2.2
300.2	Phobic State	3	6.5
300.3	Obsessive Compulsive	1	2.2
300.4	Neurotic Depression	9	19.6
300.6	Depersonalisation	1	2.2
300.9	Neurosis NOS	1	2.2
309.0	Brief Depressive Reaction	3	6.5
	All diagnoses	46	100.0

Table 7.16:
Comparison of In-Patient Inceptions and Community Inception Cases: Diagnosis (Affective Disorder)

ICD-9	RDC Current	Broad Diagnostic Category	In-Patients		Community Cases	
			n	%	n	%
296.0,296.2	Manic/hypomanic disorder	Mania	5	10.9	-	-
296.1,296.6 296.9,298.0	Major depressive disorder	Depressive illness	22	47.8	17	48.6
300.4,309.0	Minor depressive disorder	Depressive neurosis	12	26.1	6	17.1
300.0	General anxiety disorder	Anxiety neurosis	-	-	11	31.4
300.0	Panic disorder	Panic	-	-	1	2.9
300.1,300.3 300.6,309	Briquet's syndrome Obsessive compulsive disorder	Other neurosis	7	15.2	-	
All	All	All	46	100.0	35	100.0

Table 7.17:

Comparison of Hospital In-Patients and Community Cases: Inception Cases - Age Group

Age Group (yrs)	Hospital In-Patients		Community Cases	
	n	%	n	%
18-34	13	28.3	21	60.0
35-54	21	45.6	11	31.4
55-65	12	26.1	3	8.6
Total	46	100.0	35	100.0

group was used, and similar to the community onset cases of whom 46 per cent were married and 17 per cent single women. Fifty-four per cent of the new in-patients with affective disorder were unemployed compared to 37 per cent of community cases. Of the 21 women in the hospital sample who were in employment, 19 had been off sick for up to 3 months before their admission.

Summary

Cases distinguished on the basis of duration of symptoms (or treatment) and the treatment context (referred, out-patients, in-patients) are compared in this chapter. Results suggested that :

I. Comparison of hospital prevalence and onset groups:

(1) Hospital inception cases of affective disorder tended to be younger than hospital prevalence cases with similar diagnosis.

(2) Prevalence cases of affective disorder in the hospital setting who had been in treatment for longer than six months, when compared to cases with shorter duration of treatment, tended to have fewer divorced, separated, widowed or co-habiting women and an excess of individuals with affective psychosis.

(3) The more recent the inception into treatment, (i.e. shorter the duration of treatment) the more likely the group is to contain married women and women with a diagnosis of neurotic disorder.

II. Comparison of hospital new in-patients and old in-patients:

(1) Newly referred in-patients were more likely than 'chronic' or 'old' in-patients to be married, of lower social class, less likely to have psychotic disorders.

III. Comparison of community 'chronics' and 'onsets':

(1) Those who had been ill for longer than 26 weeks (chronic cases) were more likely to be older women, from working class, and to have a greater proportion with a definite RDC diagnosis and less likely to have single women, and to be in employment when compared to prevalence cases with shorter duration of illness and also onset cases identified at follow-up.

IV. Comparison of hospital in-patients and out-patients:

(1) Of all those newly referred to hospital out-patients, those who were referred as emergencies or those with a diagnosis of affective psychosis were more likely to be admitted than others.

V. Comparison of hospital cases and community cases:

(1) In the prevalence sample, there were proportionately more younger women in the community group (18-34 age group) but the highest rates for both hospital and community groups were in the 35-54 age groups.

(2) There is a greater diagnostic variability amongst affective

disorders found in hospitals, and

(3) Community cases tended to be more chronic than the hospital group.

(4) Amongst onset cases, those in the hospital group were older than those in the community and there were fewer single women among the community cases.

RESULTS

PART II

CHAPTER 8

SELECTION OF SUBJECTS

In many ways the results presented so far have been descriptive in nature and are primarily concerned with assessing the extent of morbidity in hospital and community settings. Consideration of the determinants of such morbidity have been largely confined to selected demographic factors and comparisons have been limited to broad categories or loosely defined social indices. Furthermore, much of the data in relation to the hospital sample was derived from secondary sources such as the case register and case notes with their attendant problems of inconsistency and paucity of information and the possibility of other administrative errors. Therefore, in order to fulfil the major aim of the study - a systematic and detailed comparison of hospital referred cases of affective disorders and disorders found in the community, women who were referred to hospital from the study area were sampled and information was collected from this sample using similar methods to the community study. Results from this aspect of the investigation are presented in the following chapters.

The design and methods employed have already been described in Chapter 3. The aim was to screen all new referrals to hospitals (as defined previously) and to select a sample of women between the ages of 18-65 with an address in the study area and who would be suffering from significant affective pathology. It was the intention that the

majority of such patients would be drawn from the in-patient group because it was anticipated that they would have more severe symptoms and more diagnostic variability than out-patients and therefore would be different from the community cases on this dimension. It was also thought that the severe illness episodes as found in the in-patient sample would have a more recent and accurately definable onset of their illness than in the out-patient sample which was expected to contain more chronic and milder illnesses. The easier access to hospital in-patients, the possibility of having to screen fewer referrals to hospital to gain adequate numbers of subjects and the prospect of repeated interviews also contributed to the in-patient group being chosen as the main focus of enquiry.

All female admissions in the six month period along with new referrals of women to general out-patient clinics (on a rotational basis) were screened as described in Chapter 3. This consisted of firstly identifying all admissions and new out-patient referrals through daily returns of hospital admissions and booking forms (and emergency returns the following morning) for routine clinics. For in-patients all relevant case-notes were consulted and hospital medical/nursing staff approached to assess the suitability of the patient to be included in the study. The equivalent stage with out-patients was to consult the referral letter and discussion with the psychiatrist after he/she had seen the patient.

At this stage, the following categories of patients were excluded:

(a) Age below 18 or above 65 on the day of referral

(b) Women with a usual address outside the study area

(c) Women who were suffering from primarily organic brain disorders, alcohol or drug abuse, eating disorders, personality disorders, sexual disorders, mental sub-normality, schizophrenia or other non-affective psychosis (as determined from hospital case-notes or by treating clinician)

(d) Women with hearing problems.

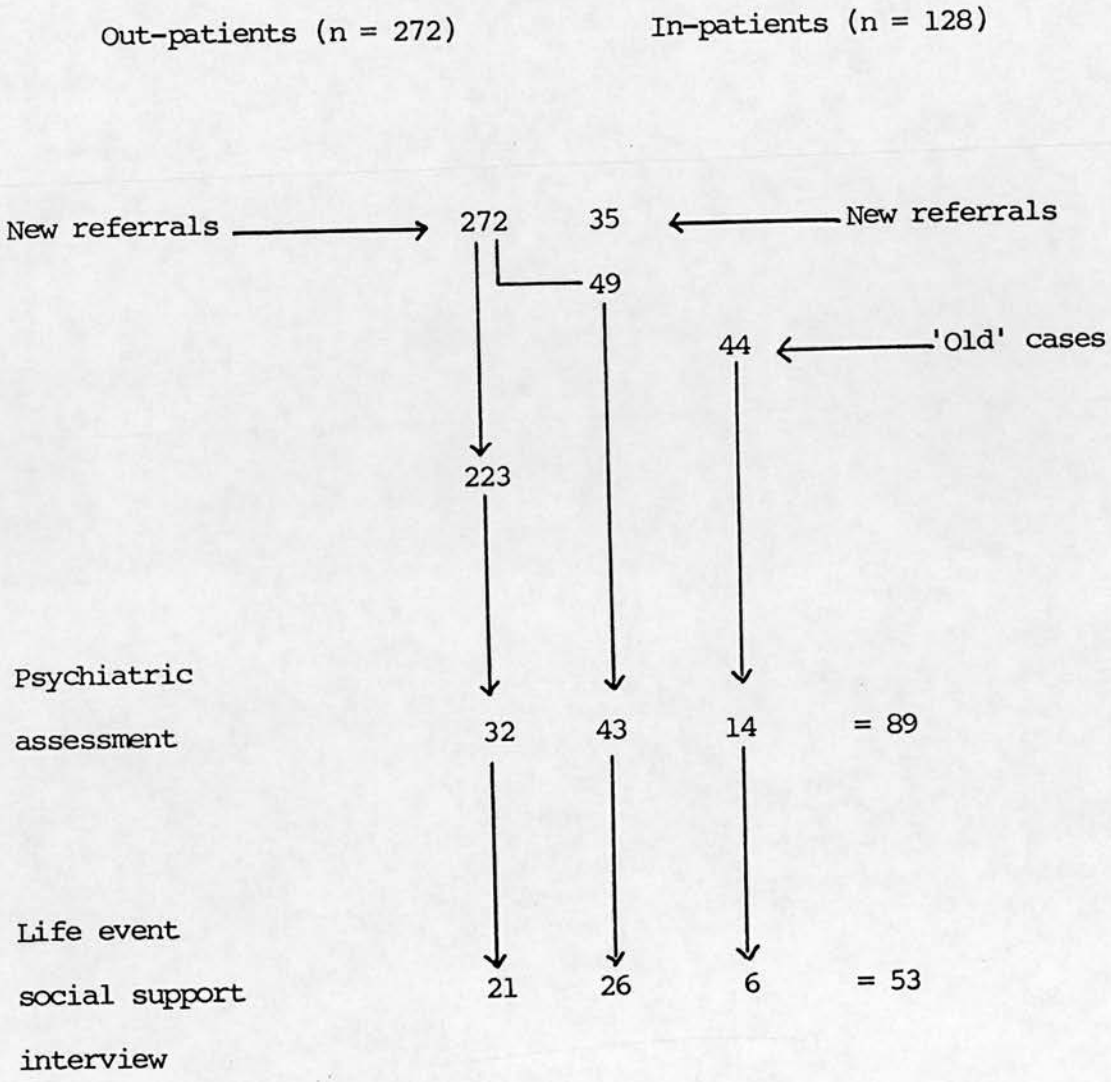
Those who did not fall into any of these categories were eligible for detailed clinical assessment. Following this, all those who achieved an RDC diagnosis of major depressive disorder, minor depressive disorder, manic disorder, schizo-affective disorder, anxiety disorder, panic disorder as current diagnosis were eligible for the second interview focussing on life events and social support.

In addition to new referrals, from the group of 'old patients' i.e. patients with a previous history of psychiatric contact in the preceding six months a 1 in 3 sample of in-patients was screened and selected to supplement the study group, in order to obtain a large enough sample of women with affective disorder.

The design and the success of the selection process is shown in Figure 8.1.

FIGURE 8.1

SELECTION OF SUBJECTS FOR INTERVIEWS



These samples were not drawn systematically. Patients were selected on the basis of initial diagnosis, availability for interviews and administrative convenience. Out-patient clinics (see page 183) were screened on a rota basis and in-patients were identified using medical records. All the patients who were thus approached were included in the study if they did not meet the exclusion criteria (p. 284-285).

A total of 349 patients were eligible for sampling (272 out-patient referrals + 35 direct admissions to hospital + 44 'old' patients who were admitted) and 89 were seen. This constitutes 1 in 4 of all those eligible to be included. In order to establish whether this sample was representative of the groups from which they were selected comparisons between those selected from the various groups (out-patients, new in-patients and 'old' in-patients) and those not included in the final sample were carried out. Differences were tested for significance using the chi-square tests.

There were 84 new in-patients (35 direct admissions + 49 admitted from new out-patient referrals) and out of this 43 were sampled (Figure 8.1). There were no significant differences between this sample and the remainder in the new in-patient group on age, (mean age as well as age groups), marital status, social class, source of reference, type of referral (whether emergency or booked), history of previous care, usual living group, poisoning or injury preceding admission. There were, as would be expected, more individuals with a hospital diagnosis of affective disorder (ICD-9 categories, 296; 298.Ø, 3ØØ.1, 3ØØ.2, 3ØØ.3, 3ØØ.6, 3ØØ.4, 3ØØ.9, 311.Ø and 3Ø9.Ø) in the selected sample than in the remainder. Seventy-two per cent of the sample seen had one of these clinical diagnoses while only 37 per cent of those not been seen had similar diagnoses ($X^2_c = 9.29$, 1 df, $p < .ØØ5$).

Fourteen subjects sampled from the 44 'old' patients who were admitted during the study period (Figure 8.1) similarly did not differ from the rest on all the variables mentioned above. The two

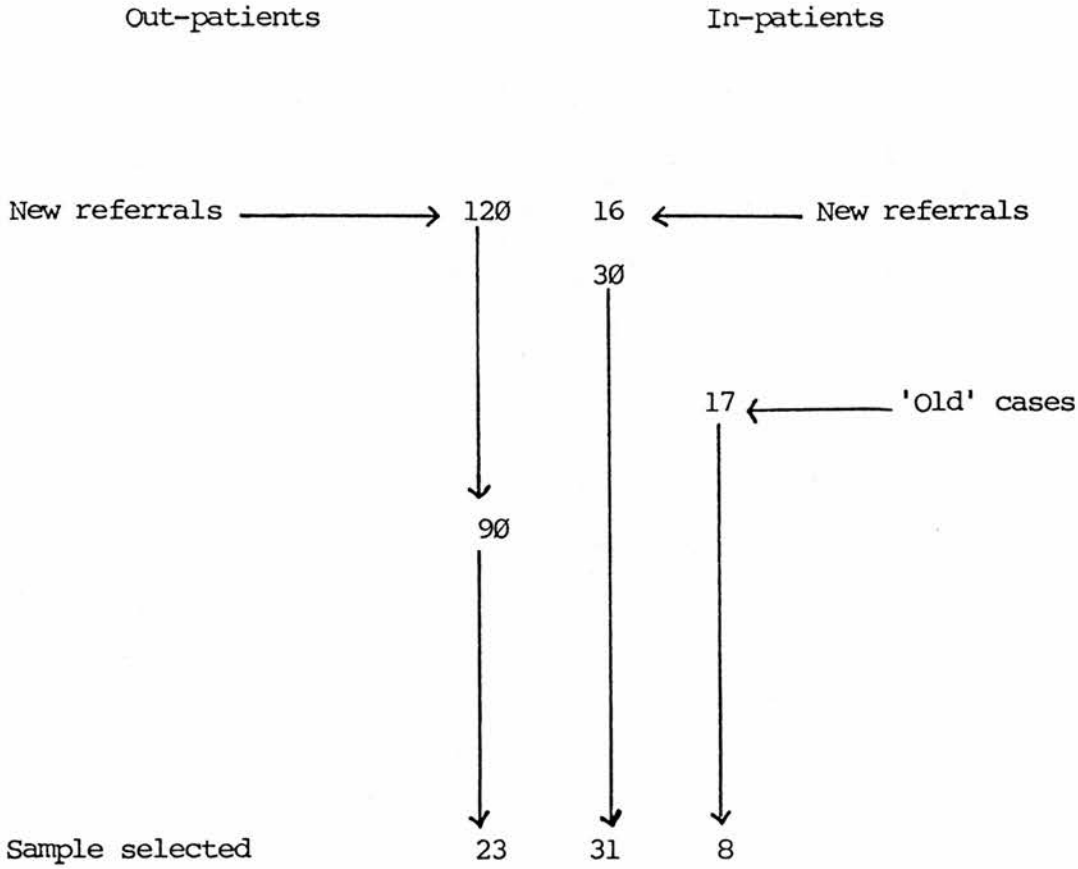
groups here, in addition, did not differ from each other in the proportions of individuals with affective disorder. Although the sample selected had 57 per cent women with affective disorder compared to only 30 per cent amongst those not selected this difference did not reach statistical significance.

From Figure 8.1 it can be seen that out of the 272 new out-patient referrals during the study period, 49 women were admitted to hospital. Of the 223 out-patients who were not admitted, 32 women were included in the study sample that was seen. So the next set of comparisons was between these 32 subjects and the 191 out-patients who were not seen. The two groups were compared on age, marital status, source of referral, type of referral (whether emergency referral or booked patient), history of previous psychiatric treatment, outcome of out-patient consultation and diagnosis. Statistically significant differences emerged on type of referral, marital status and diagnosis. Only one out of the 32 subjects seen was an emergency referral while 24 per cent of the remainder were out-of-hours or other emergency consultations ($X^2_c = 5.97$, 1 df, $p < .05$). Although the proportions of married and non-married women in the two groups were similar (47 per cent married in the sample seen, 52 per cent in those not seen - difference not statistically significant) the sample that was selected had no widows (8 per cent in the group not seen) and included 16 per cent who were co-habiting (none in the group not seen). The proportions of single women were similar (28 per cent and 29 per cent). Women with a clinical diagnosis of affective disorder (diagnostic groups, affective psychosis and neurotic disorder) were over-represented among the 32 subjects selected (72 per cent) compared to the rest (38 per cent).

The out-patient sample chosen for further study was therefore mostly women suffering from affective disorder (based on hospital diagnosis) and were under-represented in terms of emergency attenders at out-patients and divorced women.

Sampling of the study group was in fact aimed at obtaining a large number of women with affective disorder. The extent to which sampling succeeded in this and in estimating the influence of such selection in producing the bias noted above was investigated next. Figure 8.2 shows the total population with affective disorder from which the study sample was drawn.

FIGURE 8.2



There were 153 women with affective disorder (according to hospital diagnosis) who were eligible for selection. This consisted of 120 out-patients (of which 30 were admitted), 16 new admissions who were admitted without out-patient referrals and 17 admissions with history of psychiatric contact in the previous six months ('old' cases). Out of the 136 new cases of affective disorder incepted into hospital care during a period of six months, 54 (40 per cent) were sampled. A 1 in 2 sample of 'old' patients with affective disorder was also obtained.

On comparing the sample selected (n = 39) with those not selected (n = 24) from the in-patient sample with affective disorder (see Figure 8.2) on variables already mentioned, the only significant difference that emerged was on employment status. The sample that was seen had a greater proportion of women who were gainfully employed (46 per cent) compared to those not seen (17 per cent). Thirty-eight per cent of those not seen were unemployed and seeking work (8 per cent in sample seen) and 42 per cent were 'housewives' (compared to 28 per cent in the selected sample). These differences were significant (X^2 = 13.65, 3 df, $p < 0.005$).

The out-patient sample with affective disorder selected (n = 23) differed from the rest of out-patients with affective disorder (n = 67) on marital status. Although there were more married women in the selected sample (42 per cent) compared to the rest (25 per cent) the difference was not statistically significant. However, the selected sample differed from the rest by not including any divorced or separated women and by containing all the women who were cohabiting (X^2 = 19.45, 5 df, $p < 0.005$). There were no other significant

differences including the type of referral between the two groups.

The sample of women with affective disorder selected for further study was thus representative of all women with a similar diagnosis during the study period except for :

(i) having more women who were in employment, and

(ii) containing none who were divorced and separated but including all those who were cohabiting.

The 89 women who were initially selected formed the sample for analysis concerning diagnosis (Chapter 9). Seventy-one subjects from this group had affective disorder according to RDC. For purposes of comparison with the community sample, those with manic/hypomanic disorders (n = 8) were excluded from this sample and the eventual sample consisted of 63 women with affective disorder according to the Research Diagnostic Criteria (Chapter 10).

Out of this group of 63 women with affective disorder, 47 were successfully interviewed a second time to collect information regarding life events, loss, confiding relationships and social support. (8 of them had refused further interviews, 4 had moved away from Edinburgh and the other 4 could not be contacted at their usual address). Results from this part of the study are presented in Chapters 11 and 12. Analysis was carried out to establish how this sub-sample of 47 women with project diagnosis of affective disorder compared with the 16 women who also had a project diagnosis of affective disorder but were not interviewed for life-event social support data.

The two groups were compared for differences in age, marital status, social class, employment status and RDC diagnoses. Distribution of these factors in the sample of 47 women is shown in Table 8.1. The only significant difference to emerge was that the average age of those seen (39.5 years, SD = 11.7) was lower than those not seen (mean 47.5 years, SD 15.6) - ($F = 4.77$, 1 df, $p < Ø.Ø5$).

Although there were more married women (47 per cent) and fewer women who were divorced, separated, widowed or cohabiting (23 per cent) in those seen compared to the other sample (married 38 per cent, divorced, separated, widowed or cohabiting 43 per cent) the difference was not statistically significant.

Over half of the subjects seen for life events assessment were middle-class according to the Registrar General and Goldthorpe and Hope classification. Sixty-four per cent were considered to be in employment (full time 38 per cent, part-time 19 per cent, retired 4 per cent and 2 per cent students) and this was not significantly different from the work status of those not seen, in which group half the women were in employment.

For the 47 women who provided life event/social support data, RDC diagnoses assigned are shown in Table 8.2. Seventy-five per cent of the sample has a diagnosis of depressive disorder (if the schizo-affective group is included) and over half the sample achieved RDC diagnosis of definite major depressive disorder (again including 2 women with schizo-affective disorder). The diagnostic distribution in the group not interviewed is similar to this.

Table 8.1:

Demographic Associations in 47 Subjects interviewed for Life Events/Loss/Social Support

Demographic Factor	n	%
Marital status		
Single	14	29.8
Married	22	46.8
Widowed	2	4.3
Divorced/Separated	3	6.4
Cohabiting	6	12.8
Social class		
R.G. Middle	26	55.3
R.G. Working	21	44.7
(G & H Middle)	(25)	(53.2)
(G & H Working)	(22)	(46.8)
Employment Status		
Employed	30	63.8
Unemployed	17	36.2

Table 8.2:

RDC Diagnoses in 47 Subjects interviewed for Life Events/ Loss/Social Support

RDC Diagnoses	n	%
Major depressive disorder		
Definite	23	48.9
Probable	7	14.9
Schizo-affective (depressed)	2	4.3
Minor depressive disorder	3	6.4
Panic disorder		
Definite	4	8.5
Probable	1	2.1
Generalised anxiety disorder	7	14.9
Total	47	100.0

Summary

This chapter describes how successful the study design was in obtaining a sample of hospital patients for detailed assessment, concerning diagnosis and determinants of affective disorder.

(1) Out of 349 women who were screened for selection, 89 were chosen for further study and they were generally representative of the parent sample except for clinical diagnosis (the design had meant selection on the basis of a diagnosis of affective disorder)

(2) The group of out-patients included in the final sample differed from the remainder in having fewer emergency referrals and in having no divorced, separated women but an excess of co-habiting women.

(3) Out of 153 women with a clinical diagnosis of affective disorder, 62 women were successfully sampled.

(4) Those with affective disorders selected tended to have more employed women and less divorced or separated women among them compared to those not selected, but the differences were generally non-significant.

(5) A final sample of 47 women on whom life event/social support information was available and they constituted 75 per cent of all those who were eligible to be included in this part of the study. Those 47 were younger than the 16 women who did not

complete this part of the interview and also had more married women amongst them.

CHAPTER 9

DIAGNOSIS

Results presented in this chapter are directly concerned with a major aim of the study, that is to compare and contrast selected diagnostic criteria (and allied structured psychiatric interviews) in both general population and in hospital settings. An understanding of the overlap and differences between SADS-RDC, PSE-ID-CATEGO, Feighner criteria and Bedford College criteria (on information obtained through SADS and PSE) in case identification and case description, was the object of this exercise.

Selection of subjects for this part of the study has been described in detail in the previous chapter. After the prevalence study, 89 psychiatric patients were selected and all were interviewed using SADS Parts I & II and the PSE. 87 out of 89 completed both the interviews. In the two remaining subjects both interviews could not be successfully completed (one discharged herself before re-assessment using SADS could be fully completed and the other refused PSE after a lengthy SADS interview). Results here are therefore based on 87 subjects. For purposes of comparison 576 women from the community prevalence survey, 80 of whom fulfilled case criteria according to either RDC or ID-CATEGO in the month before the interview, are included. These women were interviewed using the Psychiatric Assessment Schedule (PAS) which provided symptom ratings enabling both RDC and ID-CATEGO criteria to be applied.

Out of the 87 hospital subjects, 56 were in-patients and 31 out-patients at the time of assessment. 56 in-patients included 42 new referrals and 14 'old' or chronic cases (study definition : those who had a history of psychiatric contact in the six months before index episodes of psychiatric treatment). All the out-patients were new referrals.

Table 9.1 shows the categorisation of study subjects according to the index of definition or ID. All the ratings in hospitalised subjects were based on the full PSE and were obtained by a single interviewer (author). The general population sample, on the other hand, was assessed using the first 40 items of the PSE and the ratings used in the analysis were a combination of lay (trained) interviewers and re-ratings by staff raters. Index of definition assigns the PSE scores to increasing levels of certainty that a clinical diagnosis can be made (Wing 1976). Level 1 refers to absence of PSE symptoms which along with levels 2-4 are considered as not meriting threshold level for 'caseness'. Level 5 is 'threshold' or borderline case level and ID above 5 are 'definite cases' One-third of the general population sample have no psychiatric symptoms as rated on the PSE with the vast majority of the population sample having few, mostly non-specific, symptoms. The distribution of the ID scores is markedly different in the hospital patients with the majority of individuals at or above case threshold level (ID5). Out-patients appear to overlap more with the general population ID levels than the in-patient sample although, in the hospital group as a whole, 25 per cent of subjects lie below the case threshold level.

Table 9.2 shows the distribution of 'cases', 'non-cases' and

Table 9.1:

Index of Definition (ID) in Hospital Patients and in General Population

Index of Definition	In-Patients (%)	Out-Patients (%)	All Hospital Patients (%)	General * Population (%)
1	-	-	-	33.1
2	3.6	9.7	5.7	39.6
3	7.1	9.7	8.0	10.4
4	8.9	16.1	11.5	8.2
5	25.0	38.7	29.9	7.1
6	32.1	25.8	29.9	1.6
7	12.5	-	8.0	-
8	10.7	-	6.9	-
Total N	56	31	87	576

*Based on 40 item PSE and combined ratings of lay interviewers and staff

Table 9.2:

Case Definition according to RDC in Hospital Patients and in General Population

Research Diagnostic Criteria (RDC)	All Hospital Cases (%)	In-Patients (%)	Out-Patients (%)	General* Population(%)
No disorder	2.3	1.8	3.1	86.3
Probable disorder	12.6	10.9	15.6	3.1
Definite disorder	85.1	87.3	81.3	10.6
Total N	87	56	31	576

* Limited range of diagnostic categories covered

threshold or borderline cases according to the RDC. All those meeting the requirements of the RDC (based on SADS Part I) for a current disorder are sub-divided into two levels of disorder - probable and definite. In contrast to the general population, full SADS information relating to the whole episode (until the time of assessment) is taken into account in hospital subjects and as a result the number of RDC categories available in this group is more than what was assessed in the community. Such disorders were however considered to be rare or absent (like schizophrenia, mania) in a small random sample of 576 women. Two per cent of the hospital sample failed to achieve case criteria according to the RDC, while 86 per cent of the community sample had no disorder.

The Bedford College post-hoc check list (Finlay-Jones et al 1980) was applied to the PSE based symptom ratings to produce case/non-case distinction in the samples (Table 9.3). These 'case categories' refer only to anxiety and depression and therefore it is not surprisng that more than half of the hospital patients fail to achieve definite case criteria. The separation of out-patients and in-patients reinforces the earlier observation that more subjects from the first group are assigned definite case criteria.

The next set of results (Table 9.4) shows how the same subjects were accorded diagnoses according to Feighner et al (1972) operational rules. The definite 'case' group in the general population is less than 2 per cent and over one-third of out-patients did not have sufficient symptoms to achieve a diagnosis. These criteria were applied to SADS based symptoms, but in the general population sample, the PAS related symptoms were used. The duration criterion

Table 9.3:

Case Definition according to Bedford College Check List in Hospital Patients and in General Population

Bedford Check List	In-Patients (%)	Out-Patients (%)	All Hospital Patients (%)	General Population(%)
Non-Case	41.1	29.0	37.0	79.7
Borderline Case	8.9	29.0	16.0	16.5
Case	50.0	41.9	47.0	3.8
Total N	56	31	87	576

Table 9.4:

Case Definition according to 'Feighner' Criteria in Hospital Patients and in General Population

Category	In-Patients (%)	Out-Patients (%)	All Hospital Patients (%)	General Population(%)
No diagnosis	19.6	38.7	24.1	96.2
Probable Case	8.9	16.2	11.4	1.9
Definite	71.5	45.1	64.5	1.9
Total N	56	31	87	576

required by Feighner rules was not considered for the general population group.

Stratification of the community sample according to the alternative criteria and the comparability of their success in case definition are made explicit in Table 9.5. There is almost a seven fold variation in the ability of the alternative systems to assign 'caseness' in the same sample of subjects. All ratings were derived from a single interview and they refer to the same time period. The proportion of 'definite cases' picked up by the systems vary between less than 2 per cent according to ID and Feighner and over 10 per cent by the RDC. The Bedford College criteria assign the largest proportion of subjects (17 per cent) to borderline status, followed by the ID with 7 per cent at this level.

Results of a similar exercise in the hospital subjects are shown in Table 9.6. Case definition based on both the shorter (40 items) and the full PSE are shown. Only 30 per cent of the hospital sample have sufficient symptoms in the shorter version of the PSE covering largely neurotic symptoms to achieve a definite case label while 45 per cent fulfil such requirements when the complete symptom information is utilised. The RDC again stands out as the diagnostic system most likely to assign a diagnosis in the presence of psychiatric symptoms. In contrast to the general population sample, Feighner criteria pick out considerably more individuals than the PSE as fulfilling its diagnostic requirements (65 per cent against 45 per cent according to PSE among hospital subjects while in the general population both criteria assigned definite case category to less than 2 per cent).

Table 9.5:

"Caseness" by Alternative Criteria in the General Population Sample (n = 576)

"Caseness"	ID (%) 40 Item PSE	RDC (%)	Feighner (%)	Bedford (%)
Non-Case	91.3	86.3	96.2	79.7
Threshold-Borderline-Probable	7.1	3.1	1.9	16.5
Definite	1.6	10.6	1.9	3.8

Table 9.6:

"Caseness" by Alternative Criteria in the Hospital Sample (n = 87)

Level of "Caseness"	ID % (Full PSE)	ID % (40 item) PSE	RDC %	Feighner %	Bedford Check List %
Non-Case	25.2	44.8	2.4	24.1	37.0
Threshold-Borderline-Probable	29.9	25.3	12.9	11.4	16.0
Definite Case	44.8	29.9	84.7	64.5	47.0

The differences between diagnostic systems can be concealed or exaggerated by using a global measure like case/non-case distinction alone. A more rigorous test of their comparability is to examine the extent to which the different schemes pick up the same individuals as cases or non-cases and the success with which they assign similar diagnoses to those with sufficient symptoms. The next two tables (Table 9.7 and Table 9.8) present results of such a comparison between the PSE-ID-CATEGO and the SADS-RDC schemes. These two approaches of standardised case definition are studied in detail because the interviews used in the general population and in the hospital settings were specifically aligned to these systems and also because they appear to be the most commonly used criteria in psychiatric research.

Table 9.7 shows the cross-classification of the diagnostic groups derived from the two schemes according to individuals who were assigned those labels on the basis of symptoms in the month among the community 'cases'. Out of the 80 subjects in the general population who were considered as 'cases' by either one of the schemes, 50 were ID cases and 79 RDC cases. In only 49 out of the 80 (61 per cent) was there agreement. There were 60 subjects with a diagnosis of depression (major or minor depression n = 50, intermittent depressive disorder n = 5, labile personality disorder n = 1, Briquet's disorder n = 1, cyclothymic personality disorder n = 3) according to the RDC while there were 34 with CATEGO class R or N depressions. The concordance between the systems in 61 subjects who had at least one of these diagnoses was only 54 per cent (33/61). For anxiety (CATEGO class A and RDC panic or generalised anxiety) the concordance was even poorer at 17 per cent (5 out of 30) although

Table 9.7:

Comparison of Research Diagnostic Criteria (RDC) with Catego Classes and and ICD-8 Equivalent among General Population 'Cases'

RDC	Catego Classes ICD-8 Equivalent				Total
	R 296.2/300.4	N 300.4	A 300.0/300.2	None Assigned	
Major Depressive Disorder	8	19	5	8	40
Affective Personality including Minor Depressive Disorder	2	4	6	8	20
Panic Disorder	-	-	3	1	4
General Anxiety Disorder	-	-	2	13	15
Currently Not Mentally Ill	1	-	-	-	1
Total	11	23	16	30	80

both systems appeared to identify roughly equal number of individuals (CATEGO A, n = 16 and RDC panic or anxiety, n = 19) as suffering from anxiety.

The agreement between RDC and ID-CATEGO remains poor when the hospital-referred cases are compared on the basis of diagnostic classes assigned by the two schemes (Table 9.8). Under the CATEGO system there are three descriptive categories of depression: CATEGO D requiring depressive delusions or hallucinations, CATEGO R requiring retardation, agitation or guilt and CATEGO N for depression without any of these severe, special features. Out of a total of 44 individuals with RDC major/minor depressive disorder and/or CATEGO class R. N or D, the two systems agree on only 33 subjects (75 per cent concordance). This agreement falls to 42 per cent (17 out of 41) if only major depressive disorder and CATEGO R and D classes are compared. As can be seen from Table 9.8, the remaining individuals, one is assigned to CATEGO class P and 2 are designated as anxiety (Class A). In fact all 3 individuals given CATEGO class D label achieve RDC diagnosis of schizoaffective depression or depression superimposed on schizophrenia. The agreement is poorer for neurotic disorders (29 per cent concordance) but better for schizophrenia (including schizo-affective) and other psychoses (5Ø per cent) and mania (8Ø per cent). The two schemes agree on only 4 out of 22 subjects (2Ø per cent) who were assigned no diagnosis by either criteria.

By contrasting the different criteria we are unlikely to learn which from among the competing diagnostic systems should we choose in defining the dependent variable. Their relative validity can only be

Table 9.8:
Comparison of Research Diagnostic Criteria (RDC) with Catego Classes and ICD-8 Equivalent among Hospital Patients

RDC	CATEGO CLASSES AND ICD-8 EQUIVALENT								
	R 296.2/ 300.4	N 300.4	A 300.0/ 300.2	D 296.2	P 297.9	S 295.3	M 296.1/ 296.3	None Assigned	Total
Major Depr. Dis. (Probable)	2	4	1	-	1	-	-	2	10
Major Depr. Dis. (Definite)	15	12	1	-	-	-	-	-	28
Schizo-Affective (Depressed) and Depression superimposed on Schizophrenia	-	-	-	3	1	-	-	1	5
Panic Disorder	-	1	4	-	-	-	-	1	6
General Anxiety Disorder	-	1	1	-	-	-	-	6	8
Labile Personality Minor Depressive Disorder	-	-	1	-	-		-	3	4
Schizophrenia	-	-	-	-	-	4	-	-	4
Mania/Hypomania	-	-	-	-	-	1	8	1	10
Unspec. Functional Psychosis	-	-	-	-	2	-	-	-	2
Alcoholism/Drug Use Disorder	-	-	-	-	-	-	-	3	3
Currently Not Mentally Ill	-	1	-	-	-	-	-	4	5
Total	17	19	8	3	4	5	8	21	85

measured in relation to some other external variable. But the question of how the operational criteria in use successfully match clinical criteria often employed in less structured settings can be answered to some extent by comparing clinical diagnoses attributed by them on the basis of structured interviews. The results of such comparison between CATEGO and clinical diagnosis (Table 9.9) and RDC and clinical diagnoses (Table 9.10) are given below. The clinical diagnoses were given by the psychiatrists who initially saw the subjects following referral/admission. Such diagnoses were made independent of SADS/PSE ratings and were in most instances based on total clinical information including history.

In Table 9.9, of the 25 women who were given a clinical diagnosis of depressive psychosis 17 (68 per cent) are assigned to CATEGO R, D or N class. However, if the raw totals of classes R, D and N are taken together (n = 39) then only 44 per cent of them are assigned a clinical diagnosis of depressive psychosis although 62 per cent achieve <u>any</u> clinical diagnosis of depression. Out of 47 individuals who had CATEGO sub-class R, D or N <u>or</u> a clinical diagnosis of any depression, just over half (51 per cent) are given a diagnosis of depression by both approaches.

A similar comparison of RDC diagnoses with clinical diagnosis (Table 9.10) shows that 52 individuals achieve a diagnosis of depression according to either set of criteria. The index of agreement is however only 46 per cent (24 out of 52) and this falls further when the depressive psychosis/RDC major depression comparison is made (33 per cent).

Table 9.9:

Comparison of Catego Classes with 'Clinical' Diagnoses in Hospital Patients

RDC		CLINICAL DIAGNOSTIC CATEGORIES										
		Schizophrenia	Mania	Depr. Psych.	Depr. Neurosis	Anxiety /Phobic Neurosis	Neurosis Unspec.	Personality Dis.	Alcoholism/ Drug Abuse	Other Diagnoses	No Psy. Illness	Total
ID 5-8	A+	-	-	2	1	-	3	1	1	-	-	8
	N+	-	-	6	1	1	8	-	1	2	-	19
	R+	-	-	9	6	1	-	-	-	-	1	17
	D+	1	-	2	-	-	-	-	-	-	-	3
	P?	1	1	1	-	-	-	-	-	-	-	3
	P+	-			-	-	-	-	-	1	-	1
	M+	2	5	1	-	-	-	-	-	-	-	8
	S+	5	1		-	-	-	-	-	-	-	6
ID 1-4		1	1	4	-	1	7	1	4	3	-	22
Total		10	8	25	8	3	18	2	6	6	1	87

Table 9.10:

Comparison of Research Diagnostic Criteria (RDC) with 'Clinical' Diagnoses in Hospital Patients

RDC	CLINICAL DIAGNOSTIC CATEGORIES										
	Schizo-phrenia	Mania	Depr. Psych.	Depr. Neur-osis	Anxiety /Phobic Neur-osis	Neur-osis Unspec.	Person-ality Dis.	Alco-holism/ Drug Abuse	Other Diag-noses	No Psy. Illness	Total
Major Depr. Dis.	-	-	16	7	2	8	1	3	1	1	39
Minor Depression Labile Personality	-	-	1	-	-	2	1	-	-	-	4
Schizo-Affective	3	-	2	-	-	-	-	-	-	-	5
General Anxiety	-	-	2	-	1	3	-	-	2	-	8
Panic Disorder	-	-	2	1	-	3	-	-	-	-	6
Schizophrenia	4	-	-	-	-	-	-	-	-	-	4
Mania	2	7	1	-	-	-	-	-	-	-	10
Unspec. Functional Psy.	-	1	-	-	-	-	-	-	1	-	2
Alcoholism/Drug Use Dis.	-	-	-	-	-	1	-	3	-	-	4
Currently Not Mentally Ill	-	-	1	-	-	1	-	1	2	-	5
Total	9	8	25	8	3	18	2	7	6	1	87

Summary

This chapter was concerned with examining the contrast and overlap between various operational definitions of psychiatric syndromes when applied to clinical information obtained in a standardised way. The results showed that :

(1) The RDC, PSE-ID-CATEGO system, Bedford College criteria, Feighner criteria all identified different proportions of individuals from within the same community sample as 'cases' and 'threshold cases'.

(2) Such differences persisted when only referred patients were similarly categorised but the variation was less pronounced in in-patients than in out-patients.

(3) When the RDC and PSE-ID-CATEGO systems were used to identify groups of individuals from the general population sample and when they were categorised according to diagnostic labels assigned by the operational rules there was considerable variation in the individuals given the same diagnosis; this was also true of referred cases.

(4) The agreement between these two systems with clinical diagnoses given to the referred cases was generally poor but the agreement was improved when more severe psychotic conditions were considered.

CHAPTER 10

DESCRIPTION OF HOSPITAL STUDY SAMPLE

In this chapter, the study sample selected from hospital referred cases is considered in some detail with particular reference to demographic features, onset of disorders, and health service contact. Further comparisons with general population cases are also emphasised.

As described in Chapter 9, 89 subjects were drawn from in-patient and out-patient groups and detailed psychiatric assessment was carried out as indicated in the previous chapter. The main focus of the study is affective disorder and those fulfilling RDC diagnoses for any of the affective disorders were further sampled and formed the subjects of further enquiry.

Table 10.1 gives the RDC diagnoses of current condition in the 88 subjects (excluding one subject who was 'currently not mentally ill).

More than half the subjects (52 per cent) were categorised as having depressive disorder. If the 3 women who achieved a diagnosis of schizo-affective (depressed) disorder after fulfilling the criteria for major depressive disorder are added to this, 56 per cent of the sample have a depressive condition. The project definition of affective disorder (affective psychosis and neurotic disorders) ~~were~~ was fulfilled by 71 women (81 per cent) after excluding the following diagnoses : schizophrenia, alcohol/drug use disorder, unspecified functional psychosis, other psychiatric disorder and those with no

Table 10.1:

SADS based RDC Disorders in the Interviewed Sample

RDC Diagnoses	n	%
Schizophrenia	6	6.8
Manic/hypomanic disorder	8	9.1
Schizo-affective depressed	3	3.4
Major depressive disorder	43	48.9
Minor depressive disorder	3	3.4
Panic disorder	6	6.8
General anxiety disorder	8	9.1
Alcohol/drug use disorder	5	5.7
Unspecified functional psychosis	1	1.1
Other psychiatric disorder	3	3.4
Currently not mentally ill	2	2.3
Total	88*	100.0

* One individual did not complete the SADS. All diagnoses mutually exclusive.

Table 10.2
Comparison of Hospital Sample and Community 'Cases": RDC Diagnoses

RDC Diagnoses	Hospital Sample (n=86) n	%	Community Prevalence 'Cases' (n=90) n	%	Community Onset 'Cases' (n=35) n	%
AFFECTIVE DISORDER						
Manic disorder	7	9.3	-	-	-	-
Hypomanic disorder	1		-	-	-	-
Schizo-affective depression	3	3.5	-	-	-	-
Major depressive disorder (definite)	32	50.0	31	58.9	6	48.6
Major depressive disorder (probable)	11		22		11	
Minor depressive disorder (definite)	3	3.5	11	13.3	3	17.1
Minor depressive disorder (probable)	-		1		3	
Panic disorder (definite)	5	7.0	2	4.4	-	2.9
Panic disorder (probable)	1		2		1	
Generalised anxiety disorder	8	9.3	21	23.3	11	31.4
NON-AFFECTIVE DISORDER						
Schizophrenia	6	7.0	-	-	-	-
Alcohol/drug abuse	5	5.8	-	-	-	-
Unspecified functional psychosis	1	1.2	-	-	-	-
Other psychiatric disorder	3	3.5	-	-	-	-

current psychiatric disorder. Compared to what was found in the community, disorders identified in the hospital sample are more varied and more severe (Table 10.2)

These 71 women fulfilling RDC criteria for any of the specified conditions under the project label of affective disorders are considered next.

The average age of these 71 women was 42.1 years (SD 13.2) with the largest proportion of women (49 per cent) in the 35-54 age group. Within this group more than one-third of women were in the 35-39 age band. Twenty-seven per cent were single, 44 per cent married and 10 per cent were widows. Nineteen per cent were either separated, divorced or cohabiting. One-third of the referred cases of affective disorder were in full-time employment and an additional 19 per cent in part-time employment. Apart from 3 students and 4 retired women the remaining 39 per cent did not have gainful employment outside the home. According to the Goldthorpe and Hope method of occupational classification, 47 per cent of the women were considered as working class and 53 per cent middle class (division at class 23) and division according to the Registrar General's classification confirmed the preponderance of middle-class women (Class I, II & III NM = 56 per cent).

Since all these subjects achieved RDC diagnosis of within what is broadly called affective disorders it was considered appropriate to compare these demographic features with general population cases who similarly fulfilled RDC criteria for depression or anxiety. The confounding effects of the greater diagnostic variability (see Table

10.1) within the hospital sample are controlled for to some extent by including in the comparison only those subjects who have similar diagnoses to what was found in the community and therefore excluding manic disorders (n = 63).

Such a comparison improves upon the previous comparisons between community cases and the hospital referred affective disorders described in the earlier chapters using data derived from the case register. In those register based comparisons individuals included in the hospital sample (as defined by EPCR) were selected on the basis of broad diagnostic categories assigned to them by different clinicians. Also, data relating to certain factors such as social class or economic status were not available for all cases. Here, both the community cases and the hospital sample are selected on the basis of the RDC diagnoses assigned during the research interviews and the independent variables are also similarly defined. Tables 10.3, 10.5, 10.6 and 10.7 refer to comparisons between the hospital sample with affective disorder (but excluding manic/hypomanic disorder) and two groups of 'cases' from the community survey, those identified during the prevalence survey and 35 new 'cases' who developed RDC disorders during the follow-up. The reason for selecting two groups of 'cases' from the community is that they represent both acute onset (short duration) cases as well as more chronically ill individuals picked up during the prevalence study. Those in the hospital sample have variable onsets although they were all new inceptions into treatment.

Table 10.3 shows the distribution of subjects in three age groups. Community cases tend to be younger than hospital cases. This is true

Table 10.3:

Comparison of Hospital Sample with Community 'Cases': Age Groups

Age Groups (yrs)	Hospital Sample % (n=63)	Community Prevalence 'Cases' % (n=89)	Community Onset 'Cases' % (n=35)
18-34	30.2	48.3	60.0
35-54	49.2	37.1	31.4
55-65	20.6	14.6	8.6

Table 10.4:

Social Class according to RG Classification: Hospital Sample

Social Class	n	%
I	2	3.1
II	13	20.6
III NM	18	28.6
IV	9	14.3
V	11	17.5
VI	10	15.9
Total	63	100.0

Table 10.5:

Comparison of Hospital Sample with Community 'Cases': Social Class (Goldthorpe & Hope)

Social Class	Hospital Sample % (n=63)	Community Prevalence 'Cases' % (n=86)	Community Onset 'Cases' % (n=35)
Middle class	50.8	39.5	62.9
Working class	49.2	60.5	37.1

Table 10.6:

Comparison of Hospital Sample and Community 'Cases': Employment Status

Employment	Hospital Sample % (n=63)	Community Prevalence 'Cases' % (n=89)	Community Onset 'Cases' % (n=35)
Employed	55.5	58.4	62.9
Unemployed	44.5	41.6	37.1

Table 10.7:

Comparison of Hospital Sample and Community 'Cases': Marital Status

Employment	Hospital Sample % (n=63)	Community Prevalence 'Cases' % (n=89)	Community Onset 'Cases' % (n=35)
Married	44.4	52.8	45.8
Single	27.0	12.4	17.1
Others (Separated, Widowed, Divorced, or Cohabiting)	28.6	34.8	37.1

for both prevalence cases and onset cases, and in the community samples there are very few cases who are in the oldest age group. Amongst the hospital group there are more individuals in the 18-34 age band within the out-patients than in the in-patient group and this is also shown in the average ages of the two samples. The mean age of the in- patients is 43.9 (SD 11.5) compared to 38.6 years (SD 14.1) in the out-patients ($t = 1.607$, $p < 0.05$).

Social class was determined by both the Goldthorpe and Hope method and according to the Registrar General's classification. For subjects living with their husbands, occupation of the spouse was used, while for unemployed single subjects living with their father his occupation was taken into account. The remainder had their own occupation used to provide social class categorisation. The resulting social class distribution (according to the RG) is shown in Table 10.4. Classes I, II and III NM make up 52 per cent of all hospital cases. On the Goldthorpe and Hope scale, social class was dichotomised between 22 and 23 and accordingly, the hospital sample was again almost equally divided between middle and working classes. Comparison with the community 'cases' reveals that the hospital sample lies in between the 'onset' cases and prevalence cases in the community in this respect (Table 10.5). The onset group has a clear preponderance of middle-class women while the trend is in the opposite direction amongst the prevalence group.

Tables 10.6 and 10.7 show the distribution of the hospital sample according to employment status and marital status. 'Employed' includes people working full time, part time and students. 'Unemployed' includes both those seeking and not seeking work. For

both employment status and marital status the distribution of cases was similar in hospital and community cases, except that there are proportionately more women who are separated, divorced, widowed or co-habiting in the community groups than in the hospital group. A note of caution here that the hospital sample was not representative of all those eligible to be included as far as marital status was concerned.

For the hospital sample, detailed information regarding onset of the index episode of illness and subsequent health service contact was obtained at the time of the clinical assessment. An attempt was made to date the onset as precisely as possible although in some cases arbitarary decisions had to be made as to precisely when the onset took place and in specifying a date of onset. Further information from the case-notes of the subjects and verification of it at the second interview (life event interview) helped in this to some extent. Operational criteria were used consistently and information was elicited using a semi-structured interview format.

The 63 women with affective disorder in the hospital sample had widely varying onsets, from within a week to two individuals who had been ill for 5 years. The majority had their onsets within the previous six months. The mean duration of illness episode for the group was 32.9 weeks (SD 48.9) although the median was 18.7 weeks. Over 60 per cent of the episodes had started within six months.

The average onset of those with depressive disorders (RDC major, minor depression and schizo-affective depression) was 28.8 weeks (SD 42.8) compared to the anxiety group (mean 47.2 weeks + 66.3) (Mann-

Whitney $p > 0.3$) If more severe disorders (only definite major depressions and schizo-affectives) are considered their average onset is again shorter than the rest of the group ('severe' group mean 29.2 weeks + 47.6) compared to 'non-severe' (37.4 weeks + 51.1) but the difference is not statistically significant.

Fifty-seven out of the 63 women (90.5 per cent) had consulted their general practitioner prior to hospital inception at some time during the current episode for psychiatric reasons. The average time between onset of disorder and GP consultation was 9.2 weeks and the vast majority (80 per cent) had consulted the GP within 10 weeks after the onset (median 2.1 weeks). There was no significant difference between depressives and non-depressives in the duration of episodes before seeking help at primary care level but more 'severe' disorders were seen earlier (mean 6.9 weeks, SD 14.9) than 'less severe' disorders (mean 11.9 weeks, SD 19.7), according to earlier definition of severity, but the difference was not statistically significant.

On average, 26.3 weeks (SD 50.4) elapsed after GP consultation by these 57 women before they were seen by psychiatrists. Depressives were referred to psychiatrists much earlier (mean 21.5 weeks, SD 43.5) than non-depressives (mean 42.3 weeks, SD 68.5) (Mann-Whitney $p > 0.05$) but the difference between 'severe' and 'non-severe' conditions was much less significant (means, 24.6 weeks + 50.2 and 28.3 weeks + 51.6) on this variable.

A comparison of hospital referred cases and 'cases' from the community prevalence sample shows that the former group is by and

Table 10.8:
Comparison of hospital sample and community cases
Duration of episodes

Duration (Weeks)	Cumulative Frequency (%)	
	Community n = 90	Hospital n = 63
0- 8	17.8	28.6
9-16	31.1	46.0
17-24	37.8	58.7
25-32	45.6	69.8
33-40	50.0	82.5
41-48	87.8	82.5
49-56	87.8	85.7

large of shorter duration (onset to inception) than those not in treatment (Table 10.8) while nearly half of the hospital group had an onset within four months of inception only 30 per cent of community cases reported the onset of their condition in the four months prior to the interview.

Summary

Further examination of the study sample is reported.

(1) Of the 89 women successfully sampled, the majority (81 per cent were suffering from affective disorders.

(2) The RDC diagnoses of affective disorders found among these referred cases were more varied and more severe than those assigned to 'cases' found in the general population.

(3) Comparison of referred cases and general population cases with affective disorder showed that the community cases were younger, were predominantly working class while the referred cases were equally distributed between middle and working class.

(4) The onset cases in the general population in contrast to the hospital referred cases were predominantly middle class.

(5) The majority of referred cases had their illness onset within the previous six months while the general population cases tended to be more chronic.

(6) Amongst the hospital cases, depressive disorders were of shorter duration than anxiety and severer disorders were of more recent onset than less severe disorders.

(7) The vast majority (over 90 per cent) of referred cases had consulted their general practitioner prior to entering hospital treatment and the average time between onset of episodes and primary care attendance was 9 weeks although half of them sought help from their GPs within a fortnight of the onset of symptoms.

CHAPTER 11

LOSS, CONFIDANTS AND SOCIAL SUPPORT

In this chapter loss experiences, availabilty of intimate relationships and social support network accessible to affective disorder patients in hospital are looked at and the associations with these factors in both hospital and community cases are compared. Analyses are in terms of the distribution of such associations rather than searching for interactions or with particular reference to the onset of the conditions. The variables were chosen for consideration because of their heuristic significance in available aetiological models and emphasis was placed on defining and quantifying them in an identical fashion in the community survey and hospital study.

The interview schedules used in gathering information on these dimensions are included in the Appendix. These questions followed the psychiatric assessment. There was however no attempt during the interviews to relate these enquiries to onset of psychiatric symptoms that might have been reported and usually the period covered for assessing relationships, living circumstances and social support was the month prior to the interview (in the community survey) and the period of four weeks leading up to hospital inception among referred cases.

The community 'cases' used for comparison with the hospital sample are the 79 RDC 'cases' who fulfilled the diagnostic case criteria out

of a sample of 576 women at the time of the prevalence survey. The group of 90 cases which has been referred to hitherto for this purpose is not considered as an appropriate comparison group because the 11 'cases' whose onsets pre-dated the prevalence survey but were identified as such only during the follow-up period arose from samples selected on the basis of the presence of the very factors which are under consideration here.

The hospital sample of 63 women with affective disorder was further reduced to 47 as detailed assessment of the variables in question was not available for the entire group as described in Chapter 8. Six women with diagnoses other than depression or anxiety/panic (5 mania and 1 unspecified functional psychosis) on whom full information was available are also excluded.

Loss:

Two categories of personal loss are considered. Early maternal loss was defined as loss of mother through death or separation (separation lasting for at least one year) before the age of 12. The second category of personal loss was a broader definition which included:

(i) early maternal loss as defined above

(ii) early paternal loss, defined similarly and occurring before the age of 12

(iii) death of own child or separation from child (before the child was 17 years old) for one year or more

(iv) miscarriage, termination of pregnancy or a pregnancy

resulting in a stillbirth.

If an individual had any of these experiences, she was included in the broad category of personal loss.

Table 11.1 shows the frequency of such experiences in the hospital sample and similar results from the community study. Proportions of hospital and community cases with maternal loss before the age of 12 are roughly equal (11 per cent and 14 per cent respectively) and the slight difference between the two is not statistically significant (X^2_c = Ø.659, 1 df, ns). The difference between cases and non-cases in the community is more pronounced although this also fails to reach statistical significance (X^2_c = 3.51, 1 df, p < Ø.1). If parental death alone (either mother or father) before the age of 12 is considered, 12.8% of the hospital sample, 7.6 per cent of community cases and 6.9 per cent of the remainder of the community sample have had such an experience. The slight excess of women with early parental death in the hospital sample was not statistically significant. For the broader category of personal loss, referred cases and community cases are again very similar. The difference between the cases and non-cases in the community however is statistically significant (X^2_c = 6.695, 1 df, p <Ø.Ø1).

Living group:

This refers to all the individuals living with the subject. The characteristics of such a living group were examined in three ways:

Table 11.1:

Early Maternal Loss and Other Personal Loss in the Hospital Sample and in the Community

Loss Experience	Hospital Sample (%) (n=47)	Community 'Cases' (%) (n=79)	Community 'Non-Cases'(%) (n=497)
Early maternal loss	10.6	13.9	8.0
All personal loss (broad category)	42.6	45.6	30.2

Table 11.2:

Living Group Factors in Hospital and Community Samples

Living Group	Hospital Sample (%) (n=47)	Community 'Cases' (%) (n=79)	Community 'Non-Cases'(%) (n=497)
Living alone	14.9	10.1	11.1
Living with $\geq$ 1 child and no adults	4.3	10.1	2.6
Living with $\geq$ 3 children	10.6	8.9	4.2

(a) living alone

(b) living with child(ren) and no adults, and

(c) living with 3 or more children.

Only those below age 14 are considered as children.

The hospital sample shows a slight excess of women who are living alone (15 per cent) compared to those in the general population. The differences are not significant and in fact there are comparable proportions of those living alone among those with a disorder in the community and the rest (Table 11.2). There is a significantly larger group of women who have only child(ren) living with them (and no adults) in the community case group (10 per cent) compared to community non-cases (3 per cent) and the hospital sample (4 per cent). The difference between the community groups is significant ((Fisher's Exact Test $p < 0.004$) but not that between two samples of 'cases'. Similarly, both community 'cases' and the hospital sample have a greater proportion of women with 3 or more children under the age of 14 living with them than those who are well in the general population, although it is not of statistical significance.

Confiding relationship:

For all women, careful assessment of the details of what they considered to be intimate or confiding relationships was made. Such assessment was based on the quality, availability, reciprocity and frequency of contact in relationships and all subjects were asked about 'the best confidant' as well as two others who were identified

as confidants. A summary measure combining the quality relationship was derived. This was based on :

(i) whether the subject could tell the confidant everything (or can but does not)

(ii) whether the confidant was readily available (scale points 4 and 5 in a 5 point scale), and

(iii) whether the confidant reciprocates by telling the subject everything.

This variable was derived according to well established criteria as, for example, suggested by Brown & Harris (1978).

In the present study the variable was measured on a 5 point scale, which meant :

that if all three criteria were met, the score = 1;

one facet missing - score = 2;

two facets missing - score = 3;

three facets missing - score = 4

no confidant at all - score = 5.

The distribution of referred cases and those in the community, as well as in community 'normals', on this variable are shown in Table 11.3. The difference between the community samples is mainly amongst those women who have no confidants or poor confiding relationships (X^2 = 14.314, 4 df, $p < Ø.ØØ7$). The hospital sample is more like the community 'cases' although among women in the former group only 28 per cent have a score of 1 (excellent relationship) compared to 48 per cent of community 'cases' (X^2_c = 4.297, 1 df, $p < Ø.Ø5$).

Social support:

Aspects of the subjects' social network available to them are measured here. Apart from the family, the number of individuals who come into contact with the subject in her day to day activities was quantified. Such diffuse support was measured on the availability and accessibility of relationships/acquaintances rather than on the basis of perceived adequacy of social bonds. Four domains of social activity were enquired about :

(i) work
(ii) neighbours
(iii) relatives, and
(iv) clubs, groups and other social gatherings.

The number of people coming into personal contact with the subject in each of these spheres of social life was added up. A diffuse support scale was scored on the basis of :

2Ø or more people in all of the four areas	score = 1
2Ø or more in three areas	score = 2
2Ø or more in two areas	score = 3
2Ø or more in any one of the four areas...	score = 4
2Ø or more in none of the areas, but total score across four areas 2Ø+.....	score = 5
None 2Ø+ but total score 11-2Ø then	score = 6
Total acquaintances 1-1Ø	score = 7
No acquaintances at all	score = 8

Table 11.3:

Confidant Relationship in Hospital and Community Samples

Sample	Confidant Variable Scores (%)				
	1	2	3	4	5
Hospital (n=47)	27.6	46.8	14.9	4.3	6.4
Community cases (n=79)	48.1	32.9	11.4	2.5	5.1
Community non-cases (n=497)	50.9	34.3	11.9	2.4	0.4

Table 11.4:

Diffuse Social Support in Hospital and Community Sample

Sample	Diffuse Support Scores (%)							
	1	2	3	4	5	6	7	8
Hospital (n=47)	-	2.1	8.5	27.6	17.0	17.0	27.6	-
Community 'cases' (n=79)	-	-	7.6	17.7	22.8	15.2	35.4	1.3
Community 'non-cases' (n=497)	-	0.8	14.1	37.6	14.9	17.2	14.3	1.0

Since this diffuse support score (1 to 8) is normally distributed in the general population sample a cut-off between scores 4 and 5 is chosen. Distribution of diffuse social support scores in the samples is shown in Table 11.4. The difference between the community cases and non-cases is highly significant (X^2 = 30.94, 6 df, p < 0.001). While 62 per cent of the referred cases have poor social network (score above 4) nearly three-quarters of the community cases score above the cut-off, but this difference fails to reach statistical significance.

Summary

Detailed consideration of types of loss experiences and social support available to referred cases of affective disorder revealed that :

(1) There is considerable similarity between hospital referred cases and general population cases in terms of the variables studied here.

(2) 1 in 10 of referred cases had experienced maternal loss before the age of 12 and this was similar to that found amongst general population cases.

(3) Both referred cases and community cases had significantly more loss experiences than non-cases in the general population.

(4) More of the community cases than referred cases and non-cases in the community were living with children and with no adults.

(5) The proportions of general population cases and referred cases who had 3 or more children living with them were similar and these were greater than that found amongst non-cases in the community.

(6) The similarity between referred cases and community cases is further emphasised by the fact that in both these groups there are more subjects with poor confiding relationships than non-cases.

(7) The two groups of cases were also similar in having less diffuse social support available than non-cases in the community.

CHAPTER 12

EVENTS AND DIFFICULTIES

Adversity or 'stress' measured in terms of life events and long-term difficulties in hospital referred women with affective disorder is presented here. The hospital sample is again compared with women with similar disorders identified during the community study.

The main emphasis here is to examine the relationship between life events and difficulties with episode onset and inception into treatment. Details of the methodology used in the assessment of events and difficulties are given in Chapter 4. A modified version of the Bedford College life events and difficulties schedule was used. All events were dated to the nearest week prior to inception/onset and long-term difficulties were assessed for their duration. All events were rated according to Bedford College threat and focus ratings, all difficulties rated according to their objective and general severity (Brown & Harris 1978). In addition, all events and difficulties were rated on a four point scale according to the extent to which a subject was herself responsible for their occurrence.

Severe events were those that scored 1 on long-term threat ratings and which involved the subject herself as the main actor (subject focus) or subject jointly with 'other' person. If score = 2 on long-term threat such an event was still considered severe if it was

subject focussed. A major difficulty was identified if a long-term difficulty (lasting for 2 years or more) had an objective severity rating of 1, 2 or 3 and the focus was the subject herself or jointly with 'other' person. Independence was established if on a four point scale (1 = definitely dependent, 2 = largely played a part, 3 = probably independent and 4 = independent) score 3 or 4 was obtained. All difficulties had lasted for at least two years and were ongoing.

Forty-seven women who fulfilled RDC criteria for a diagnosis within the project diagnosis of affective disorder are first classified according to the duration of episodes. Life event/difficulties data prior to the onset of episode was collected only if the onset had taken place within six months (26 weeks) of inception into treatment. In such women, a period of 26 weeks prior to the onset as well as from onset to inception was covered. This group was called the onset group or acute group and included 25 women. The other 22 women had an onset outside the six month period and hence they provided life event information for a fixed period of six months prior to inception to care (chronic group). Fifteen of the 22 'chronics' (68 per cent) and 20 out of the 25 'onsets' (80 per cent) were depressive disorders (Table 12.1). The average time period covered for 'onsets' was 35 weeks and for 'chronics' a fixed period of 26 weeks was covered for each individual. For all 47 women life event/difficulties occurring prior to inception into care was available. Results are presented under three headings:

(i) life events

(ii) long-term difficulties and

(iii) events and difficulties combined.

(i) Life events

Data relating to life events are categorised according to severity/ independence and are examined in relation to inception into psychiatric treatment, first inception into care (that is consultation with the general practitioner) and onset of disorders. Life event data in relation to inception and onset are summarised as event rates and proportions of individuals with and without events.

(a) Life events prior to inception into psychiatric treatment

Here data relating to all 47 subjects are used. For the 22 'chronic' subjects data from the six month period prior to inception is taken into account. For the 'onset' group (and in all of them onset of episode was within six months of inception) life events occurring after onset and before treatment inception are considered. On average, this was 9 weeks pre-incpetion. Rates of <u>all</u> events combined and expressed as rate/100 women over 3 week periods are shown in Figure 12.1. There is a clear and consistent increase in event frequency in the 9 weeks before psychiatric referral takes place and the rate reaches a maximum of 50 events/100 women in the three weeks before inception. This is after controlling for any constellation of events associated with onset that could be expected and hence represents event frequency after the onset of illness. If the 'chronics' and 'onsets' are separately considered, the peak of rates in this 9 week period before inception is still evident although the rates for the 'chronics' are slightly higher (Table 12.2).

Figure 12.1:

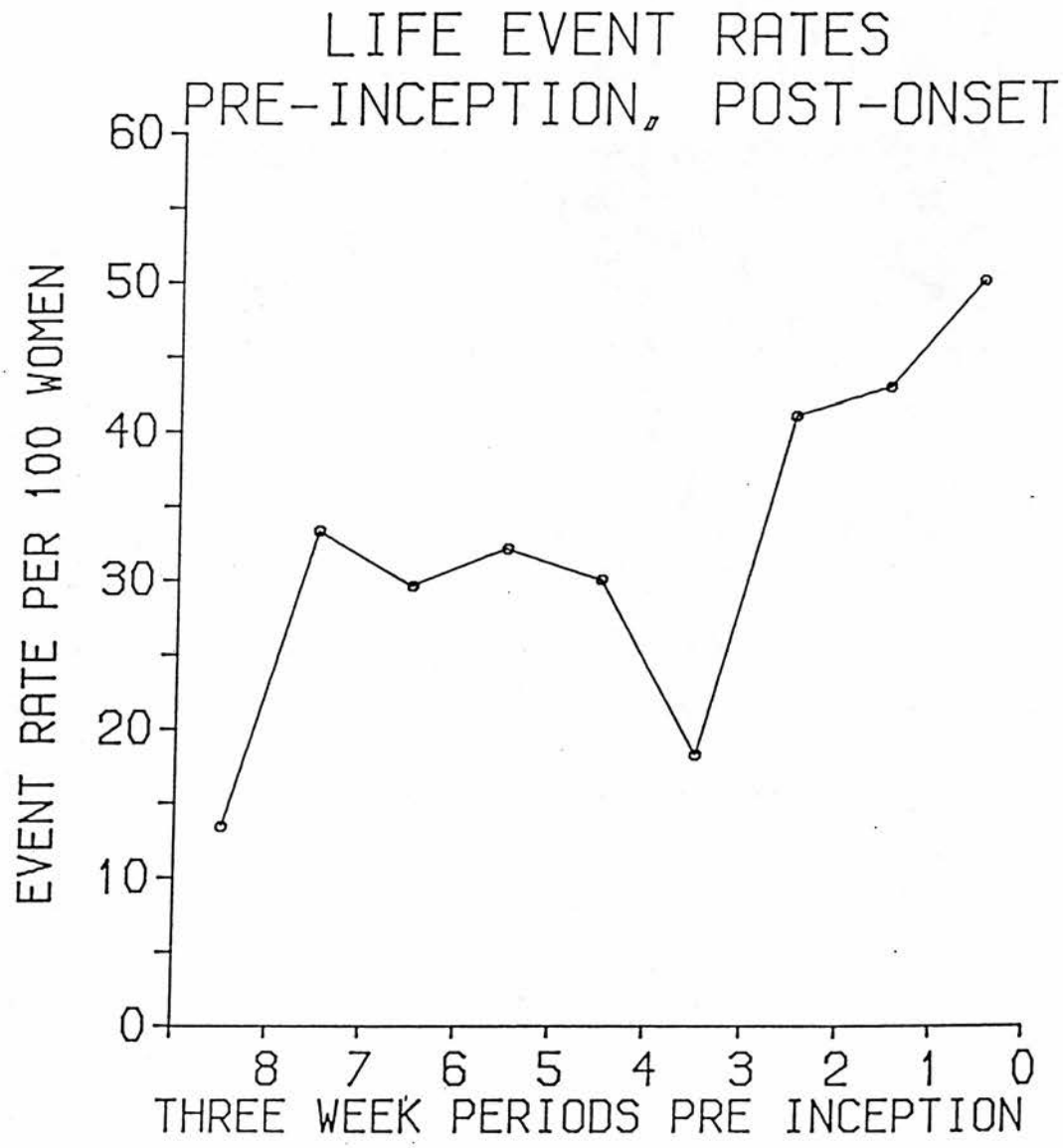

LIFE EVENT RATES
PRE-INCEPTION, POST-ONSET
EVENT RATE PER 100 WOMEN
60
50
40
30
20
10
0
8 7 6 5 4 3 2 1 0
THREE WEEK PERIODS PRE INCEPTION

Table 12.1:

Hospital Sample interviewed for Events/Difficulties

RDC Diagnosis	'Onsets'	'Chronics'
Schizo-affective (depression)	1	1
Definite Major depression	14	9
Probable Major depression	4	3
Minor Depressive disorder	1	2
Generalised Anxiety disorder	3	4
Panic disorder	2	3
Total	25	22

Table 12.2:

Life Event Rates/100 Women/3 Weeks in 2 Months before Inception

Sample	3 Week Time Periods Before Inception		
	0 - 2 (wks)	3 - 5 (wks)	6 - 8 (wks)
Onset group	45.8	42.1	43.8
Chronic group	54.5	45.5	40.9
All inceptions	50.0	43.9	42.1

Rates of events expressed this way are influenced by aggregation of events reported and do not reveal the variability between individuals in the reported number of events. Therefore, if the proportions of women reporting any event were calculated, and it was seen that 8 out of the 25 'onsets' (32 per cent) and 4 out of the 22 'chronics' (18 per cent) had no events before inception. But if from the onset group women with an onset close to inception (within 8 weeks of inception) are excluded from this calculation (so that the effect of any constellation of events immediately prior to such acute onsets is minimised in the consideration of events prior to inception only) then 16 out of 19 'onset' women (84 per cent) are seen to have had a life event in the 9 weeks leading up to hospital inception. Fifteen of the 22 chronics (68 per cent) also had a life event within the two months of inception. This is shown in Table 12.3. Forty-two per cent of onset cases and 36 per cent of chronics had a severe event in the same period. One-third of the chronics (32 per cent) and a quarter of the onset cases (25 per cent) had a severe life event in the 3 week period prior to admission.

Figure 12.2 shows the frequency of events expressed as event rate/100 women in three week periods and according to whether the events were classified as severe or non-severe. The calculations were identical to the way total event rates were derived (Figure 12.1) and among the onset group only events occurring after the onset of episodes within the six months were taken into account. There is a marked increase in the number of severe events in the three weeks prior to inception while non-severe events reach a peak in the six weeks before inception following which there is a decline until inception. Such an observation would suggest that differential recall of events was

Table 12.3:

Proportion of Subjects with Life Events in 2 Months Before Inception

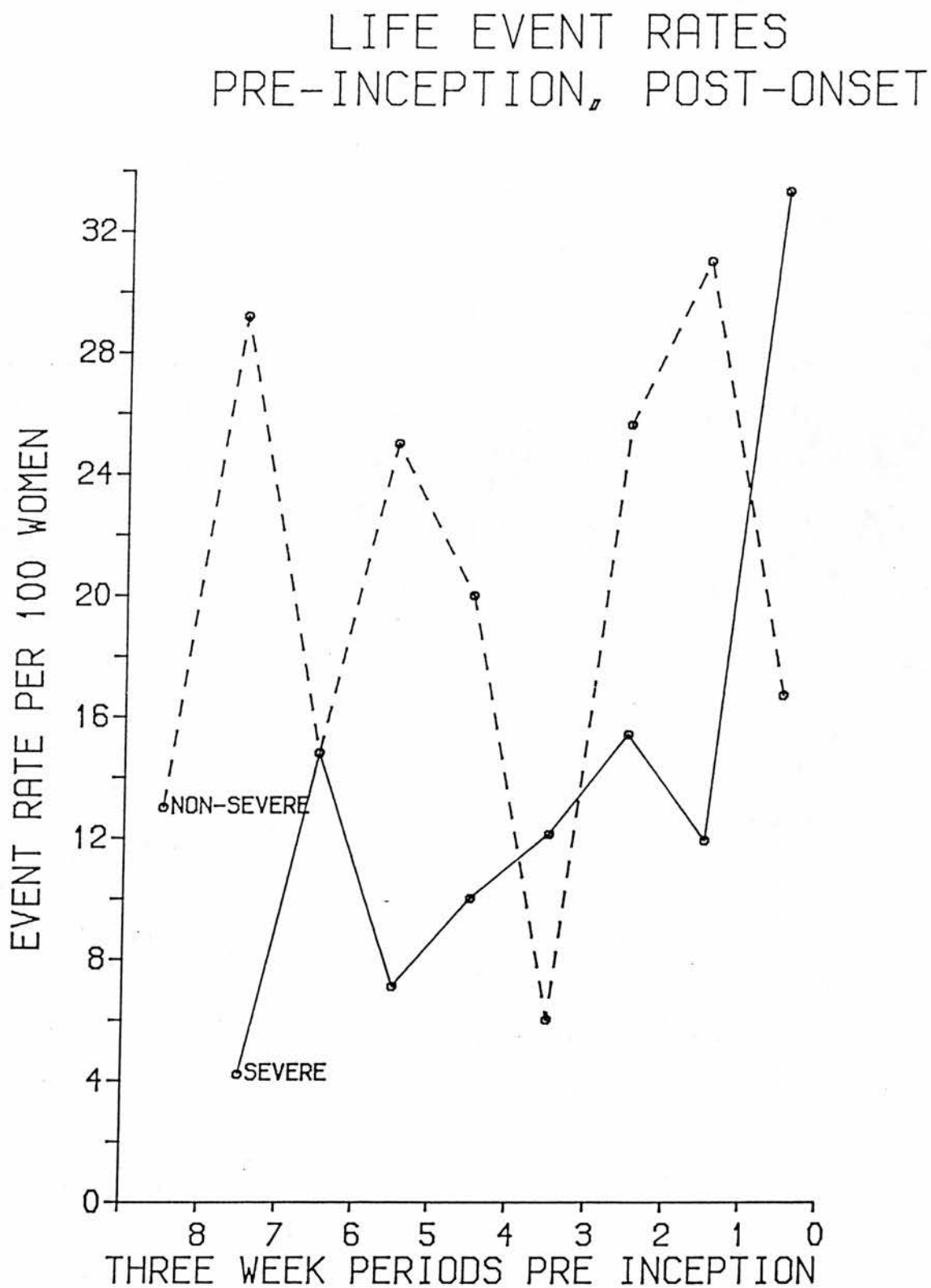
Sample	3 Week Time Periods Before Inception			Total 9 wks
	0-2 wks	3-5 wks	6-8 wks	
Onset group	37.5	31.6	37.5	84.2
Chronic group	50.0	36.4	22.7	68.2
All inceptions	43.5	34.1	28.9	75.6

Table 12.4:

Categories of Life Events Prior to Psychiatric Inception in 'Chronic' Hospital Patients and among 'Non-Cases' in the Community

Category of Life Events	Hospital 'chronics' percentage with more than 1 event in 6 months	Event Rate/100 Women/6 Months	
		Hosp. sample n=22	Community non-cases n=485
All non-severe	77.3	231.8	146.0
Dependent non-severe	59.1	118.2	51.7
Independent non-severe	63.6	113.7	94.3
All severe	59.1	109.1	15.8
Dependent severe	45.5	63.6	5.1
Independent severe	27.3	45.5	10.7
All dependent	86.4	181.8	56.8
All independent	68.2	159.1	105.0
All events	86.4	340.9	161.8

Figure 12.2:


LIFE EVENT RATES
PRE-INCEPTION, POST-ONSET
EVENT RATE PER 100 WOMEN
32
28
24
20
16
12
8
4
0
NON-SEVERE
SEVERE
8 7 6 5 4 3 2 1 0
THREE WEEK PERIODS PRE INCEPTION

unlikely to have contributed significantly to the contrasting distribution of severe and non-severe events.

The majority of the subjects had contacted a general practitioner (87 per cent) and as would be expected a greater proportion of chronics (96 per cent) had primary care treatment than onset cases (80 per cent). All those who consulted their G.P.s had reported that such consultation was for their current illness episodes and therefore it would be more accurate to accept the primary care consultation as the time when these women first decided to seek treatment.

Life event rates prior to G.P. consultation, again for the period after onset, are shown in Figure 12.3. There is, as with inception into psychiatric care, an increase in event rates before G.P. consultation. On taking G.P. consultation or inception into psychiatric care (for those who had not consulted their GPs) as the time of treatment inception and if the occurrence of life-events prior to that point is considered, the trend found is one of increasing life events in the period immediately prior to seeking medical help (Figure 12.4). The peak of life events (in terms of their frequency) is in the three weeks leading up to inception into care.

The categories of life events experienced by subjects before their inception into psychiatric care are considered next. The period of six months prior to the inception is taken into account and, because of the variable time period following the start of the episode until treatment inception in the onset group, only the chronic cases are

Figure 12.3:

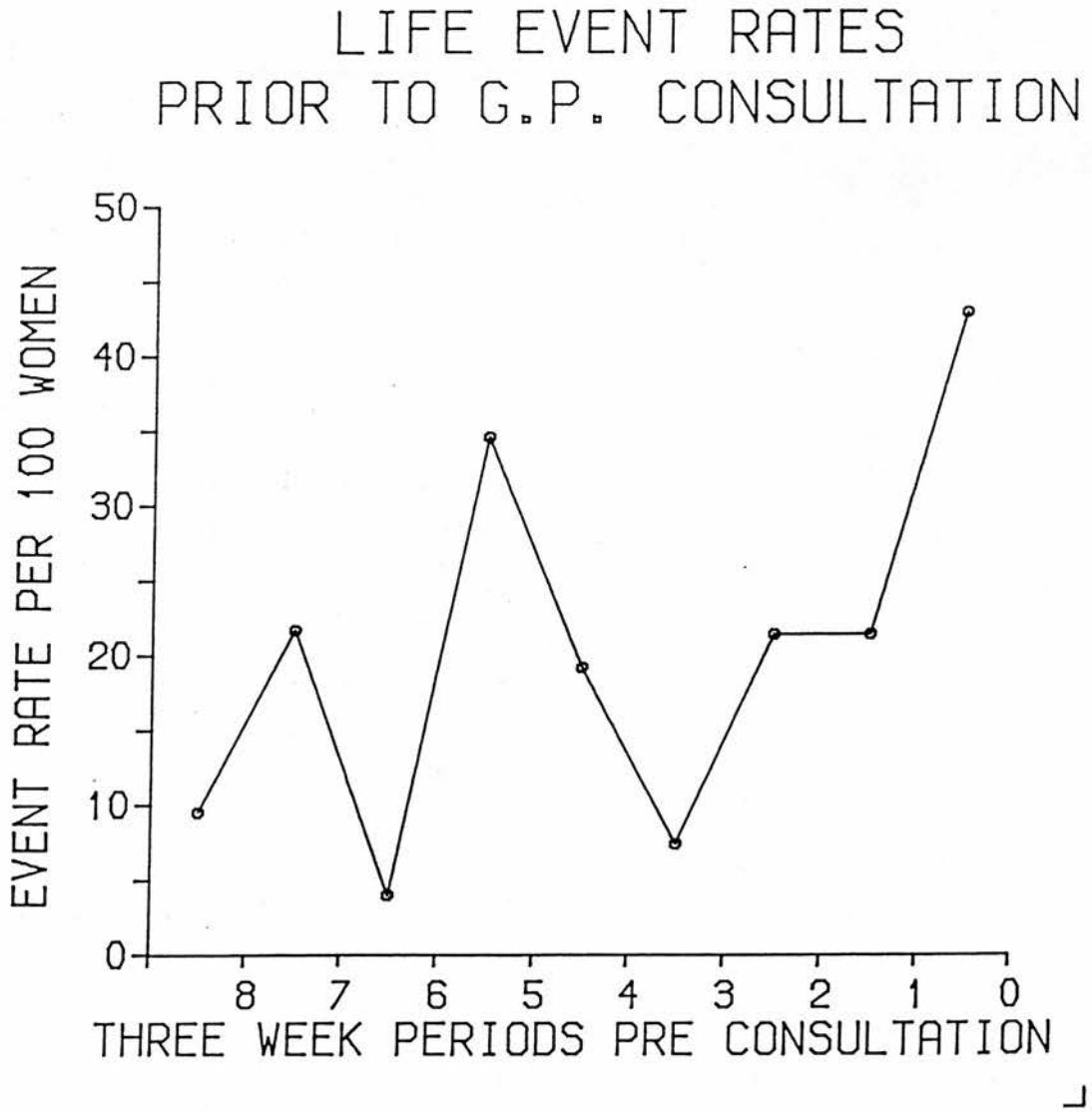
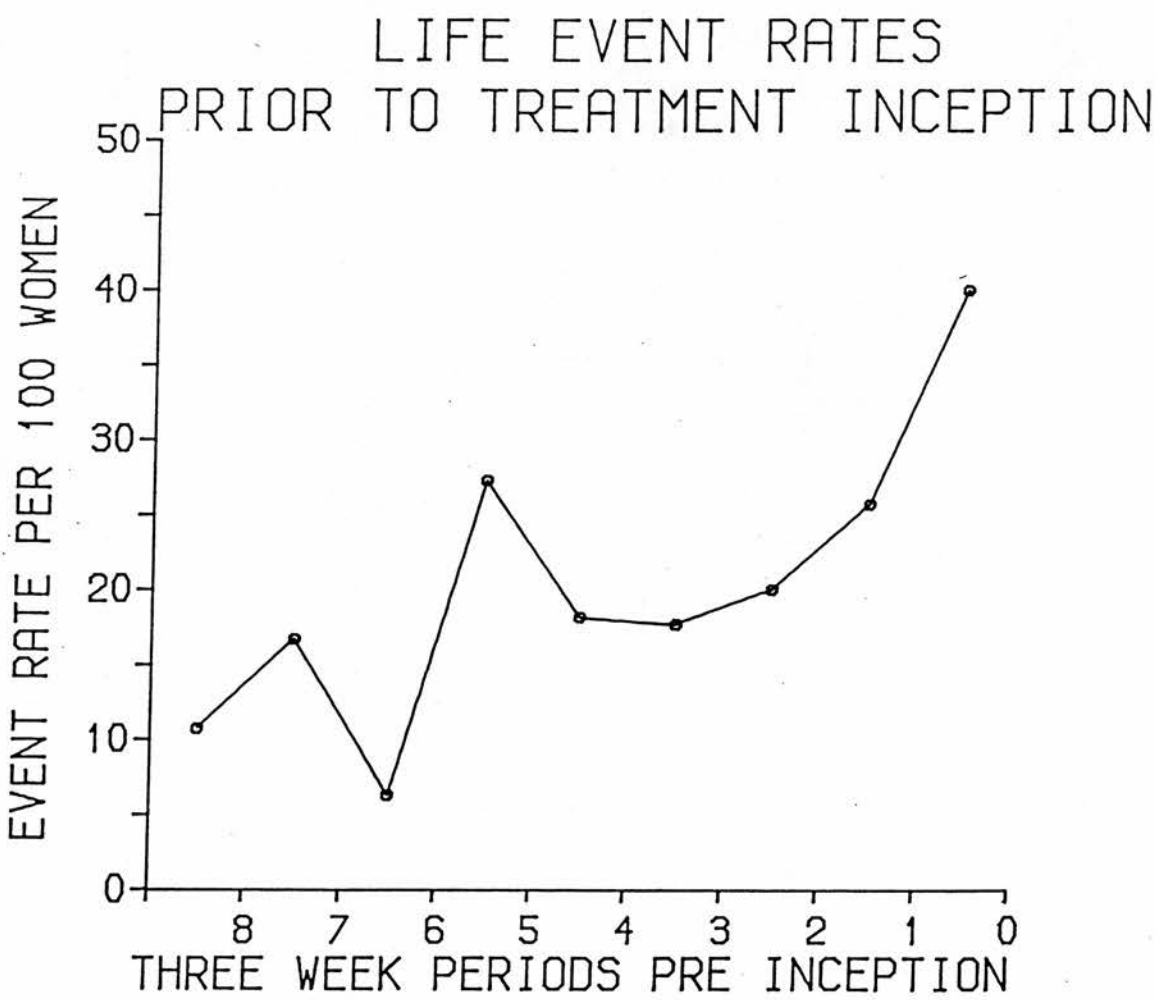

LIFE EVENT RATES
PRIOR TO G.P. CONSULTATION
EVENT RATE PER 100 WOMEN
50
40
30
20
10
0
8
7
6
5
4
3
2
1
0
THREE WEEK PERIODS PRE CONSULTATION

Figure 12.4


LIFE EVENT RATES
PRIOR TO TREATMENT INCEPTION
EVENT RATE PER 100 WOMEN
50
40
30
20
10
0
8 7 6 5 4 3 2 1 0
THREE WEEK PERIODS PRE INCEPTION

considered here. Proportions of cases with severe and non-severe events, further sub-divided according to whether they were independent of the subject are shown in Table 12.4. The same table also shows event rate for each category expressed as rate/100 women/ 26 weeks. There was a total of 75 events for 22 women over a period of 572 weeks (mean = 3.4 events, SD 2.8 in 26 weeks). In addition to the hospital cases the rates of life events in various categories as found among 'non-cases' in the community prevalence survey are also given for purposes of comparison. All events were post-onset. Independent events refer to whether they were probably or definitely independent of the subject's own action and do not include events that could be understood as brought on by the illness. Events such as a suicide attempt are therefore classified as dependent events.

Eighty-six per cent of 'chronic' subjects had at least one event in the six months before inception. The majority of events were non-severe or dependent. Although over half of the subjects (59 per cent) had a severe event some time during the six months, less than half of such events were independent severe events (27 per cent of the sample). Similarly, of all the independent events the majority were minor or non-severe events. The frequency of dependent events in both severe and non-severe categories was higher than that of independent events.

Comparison with community 'non-cases', shows that hospital cases prior to their inception into care at least have more than twice the event rate with an excess of events in all categories. The difference between the two samples is most marked for severe events (nearly seven times commoner in the hospital sample) and especially

for dependent severe events. Very few of the community 'normals' experience severe events in a given period of time (six months here) compared to women with psychiatric disorder in hospital settings (Table 12.5). Fifty-four women who met RDC criteria for psychiatric disorder and who had been ill for at least six months before their assessment (community chronics) are also included for comparison. Greater proportions of the case samples (from both hospital and community settings) have events compared to normals and 'chronic' hospital cases have greater proportions with both severe and severe independent events than 'chronic' cases in the community.

(b) Life events prior to onset of disorder

From an aetiological point of view it is much more important to understand the relationship between the onset of psychiatric disorder and life events than the link between events and inception of individuals into care. This objective, the examination of life events occurring before episode onset, was achieved to some extent in this study by considering antecedant life events in the 25 onset cases. In these 25 women, information relating to life events was collected over a fixed period of 6 months prior to the dated onset of the current episode in addition to data obtained over the post-onset period until treatment inception.

Figure 12.5 shows the life event rate in 3 week periods over six months prior to illness onset. There is a clear elevation of rates before the onset but it is not dissimilar to a pattern of earlier peaks at 21-23 weeks and again at 9-11 weeks. All pre-onset events were included in this and there were 32 events for 25 subjects in 650

Figure 12.5:

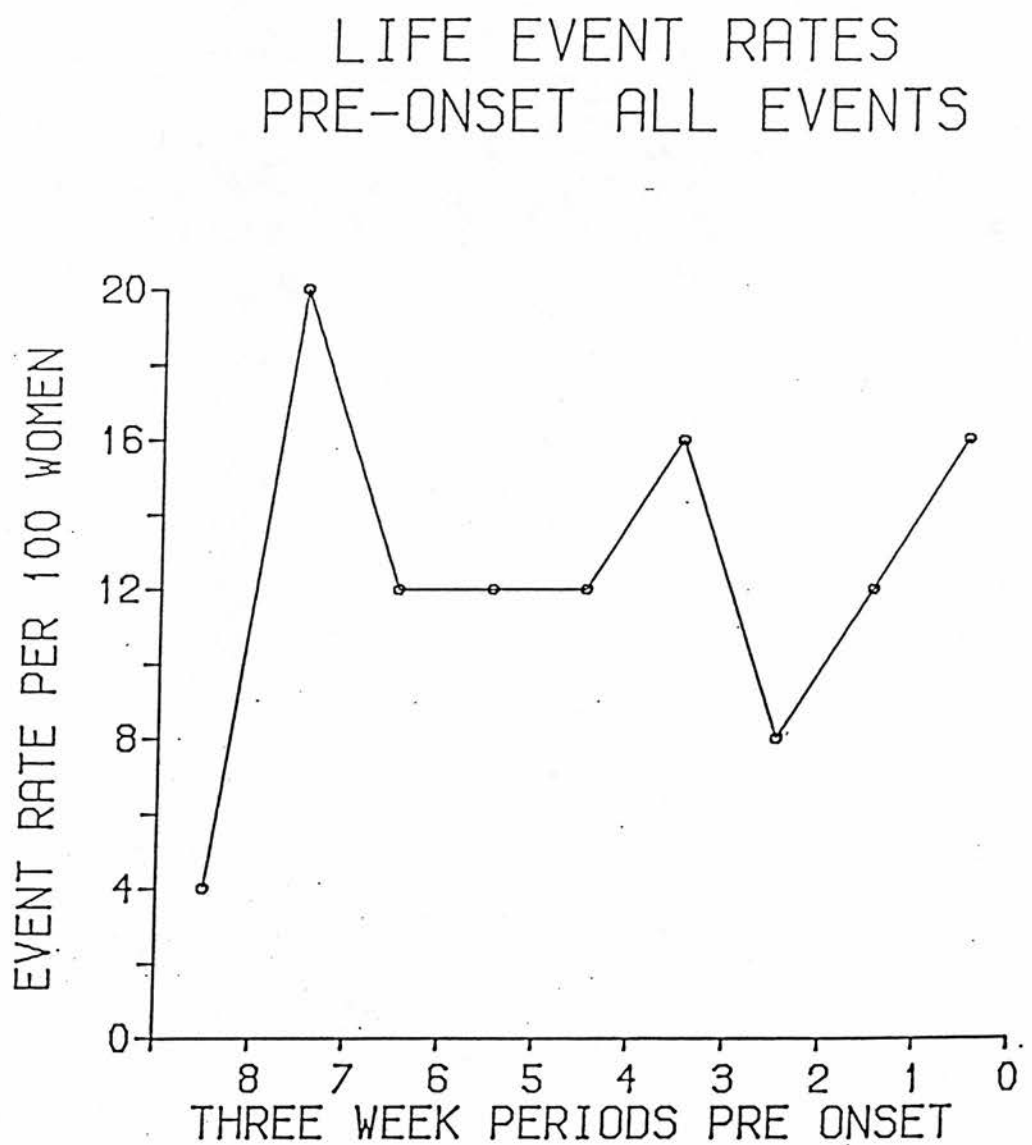

LIFE EVENT RATES
PRE-ONSET ALL EVENTS
EVENT RATE PER 100 WOMEN
20
16
12
8
4
0
8 7 6 5 4 3 2 1 0
THREE WEEK PERIODS PRE ONSET

Figure 12.6:

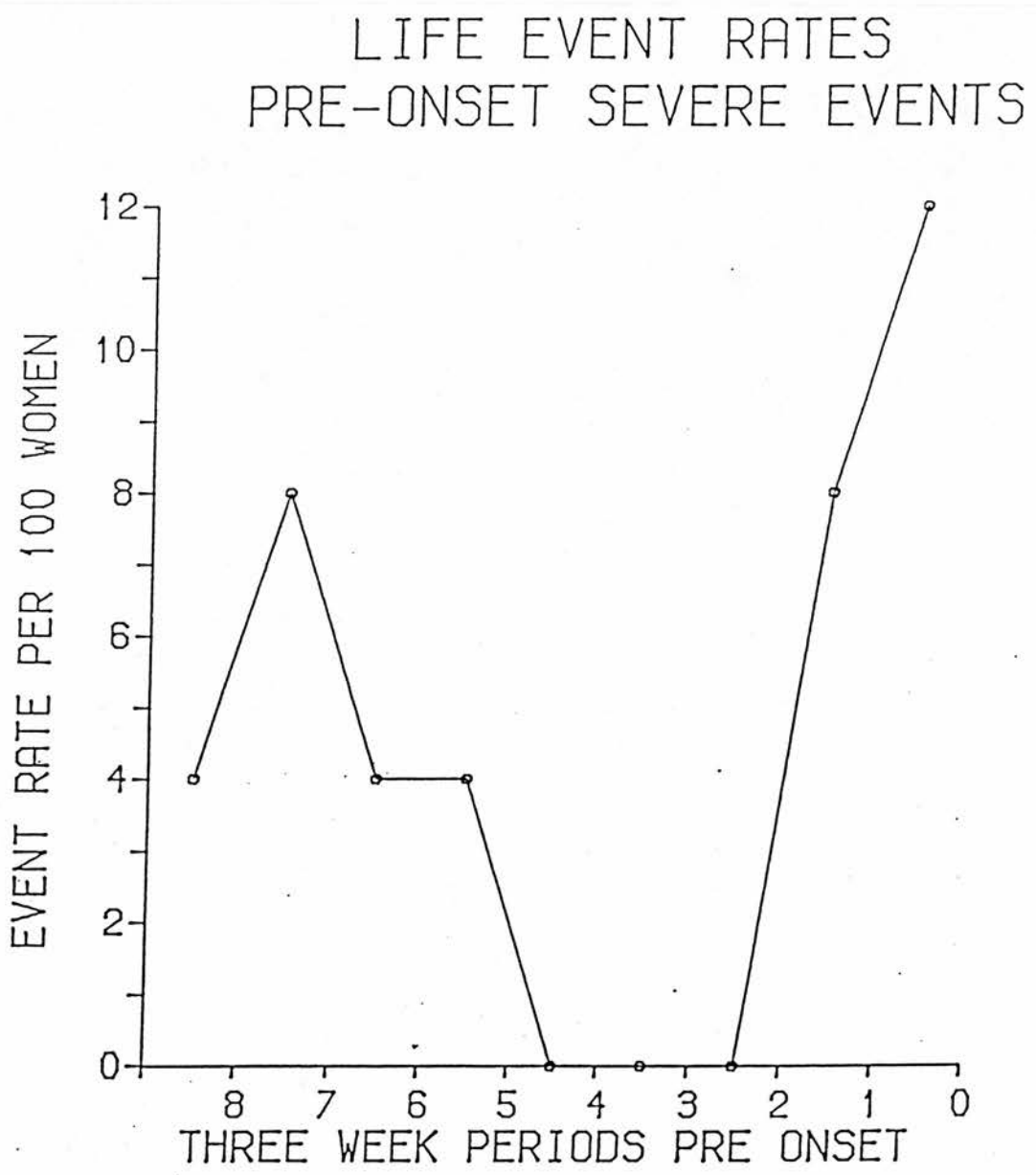

LIFE EVENT RATES
PRE-ONSET SEVERE EVENTS
EVENT RATE PER 100 WOMEN
12
10
8
6
4
2
0
8 7 6 5 4 3 2 1 0
THREE WEEK PERIODS PRE ONSET

Table 12.5:

Life Events Prior to Inception into Treatment or Community Survey

Category of Life Events	Percentage with ⩾1 Event in 26 Weeks		
	Hospital 'chronics'	Community 'chronics'	Community 'non-cases'
All severe events	59.1	22.2	11.3
Dependent severe events	45.5	15.2	3.9
Independent severe events	27.3	7.4	7.4

Table 12.6:

Categories of Life Events preceding Onset of Illness in Hospital Sample (n = 25)

Category of Life Events	Percentage with ⩾1 event in 26 weeks	Event rate/ 100 women/ 6 months
All non-severe	44	92.0
Dependent non-severe	12	16.0
Independent non-severe	40	76.0
All severe	32	36.0
Dependent severe	8	8.0
Independent severe	24	28.0
All dependent	16	20.0
All independent	64	108.0
All events	72	128.0

Table 12.7:

Life Events Rates Preceding Onset/Interview in Hospital and Community Samples

Category of Life Events	Event Rate/100 Women/Six Months		
	Hospital onset cases (n=25)	Community onset cases (n=35)	Community 'non-cases' (n=485)
All non-severe	110.1	140.9	146.0
Independent non-severe	104.0	81.1	94.3
All severe	36.7	34.2	15.8
Independent severe	30.6	12.8	10.7
All dependent	18.4	81.1	56.8
All independent	134.6	93.9	105.0
All events	146.8	175.0	161.8

Table 12.8:

Life Events Prior to Onset/Interview: Percentage of Subjects with Event(s)

Category of Severe Life Events	Percentage with $\geqslant 1$ Event in 17 Weeks		
	Hospital onset cases (n=25)	Community onset cases (n=35)	Community 'non-cases' (n=485)
All severe events	24.0	20.0	8.7
Dependent severe events	8.0	14.3	3.1
Independent severe events	20.0	8.6	5.8

weeks (mean 1.28 events/100 women/26 weeks, SD = 1.17). When only the severe events are taken the association of increase in event rate with onset is much more pronounced as shown in Figure 12.6. Severe event rate reaches its peak in the week of episode onset. Of all the severe events reported by the total group in 6 months, 50 per cent occurred in the six weeks before ~~inception~~ onset, while only 25 per cent of all events occurred in this period, a quarter of the total time period covered.

Another way of examining the link between events and onset of episodes is by calculating the proportion of individuals with events (divided into different categories) prior to onset. Eighteen out of the 25 onset cases (72 per cent) had an event in the six months before onset. The different classes of events and event rates are given in Table 12.6. Although 64 per cent of the subjects had an independent event (here independence is mainly referring to the fact that the event was not brought about by subject's own actions rather than related to the consequence of illness because it occured before the illness onset) only 24 per cent of the sample had an event that was both severe and independent. Nearly one-third of the sample had a severe event.

Table 12.7 is a comparison of event rates in hospital onset cases with community onset cases and non-cases. For community onset cases, unlike the hospital sample, life event information was gathered over a fixed six months period before the interview. As a result, for those who had an onset of episode in the six months (onset cases) pre-onset time over which event data was available was variable. On average, 17 weeks of pre-onset information was collected. For

purposes of comparison therefore, the hosptial onset sample was also considered in relation to 17 weeks pre-onset time period and for both samples (as well as for the community non-cases) this was pro-rated to 26 weeks.

Results show that the frequency of events is greater in the community onset cases and also in 'normal' women than in referred cases. However, this excess in the community samples, especialy among the 'normal' group seems to be largely due to dependent events and minor events. The hospital rate for severe events is twice that of the community 'normals' and is comparable to community onsets. It is the independent severe events that seem to distinguish the hospital sample from the rest with the rate of such events preceding onset in the hospital group nearly three times that found amongst 'normal' women in the community and over twice the rate for community 'onset' cases.

This disparity between samples is further emphasised when they compared for the proportion of subjects with severe events prior to onset/interview (Table 12.8). Of the 8 women out of the 25 hospital onset group (32 per cent) who had a severe event in the 26 weeks prior to the onset, 6 had the event within 17 weeks (24 per cent) and this compares with 20 per cent of onset cases in the community. Proportions of subjects with independent severe life events in the two community groups are similar (8.6 per cent and 5.8 per cent) but in the hospital onset group, 20 per cent of women had such an event in the 17 weeks before onset of their illness.

(ii) Long term difficulties

Difficulties lasting for 2 years or more were also categorised into major or minor and dependent or independent according to criteria already mentioned. Difficulties were rated as present only if they were ongoing. The hospital sample is divided into chronic cases and onset cases, and the presence of difficulties in the two groups is presented separately. Psychiatric illness was not rated as a difficulty. In contrast to events, dependent difficulties were so classified not because the subject had initiated it (little information on the start of the difficulty was available) but on the basis of whether the subject had sufficient opportunity to influence the course of the difficulty.

(a) 'Chronic' cases from the hospital sample

The group considered here is the same (n = 22) as previously described and all of them had an episode of illness lasting for over 6 months at the time of psychiatric inception. Since difficulties are continuing and are often long-term problems lasting for several years in some cases, no attempt was made to study the longitudinal course of these and results presented here refer to proportions of subjects with difficulty. Table 12.9 shows the percentage of chronic cases with long-term difficulties prior to psychiatric inception. The comparison groups are 'chronic' cases from the community prevalence survey along with community 'non-cases'. Compared to the community samples, hospital cases have an increased number of major long-term difficulties and independent major long-term difficulties. In fact, 21 out of the 22 'chronic' patients had a

long-term difficulty, 13 out of 22 had major, and 17 out of 22 had minor difficulties. Altogether this group reported 18 long-term major difficulties (SD = Ø.85) and 29 minor difficulties.

(b) Long-term difficulties prior to onset of episodes

In the onset group (n = 25) there was a preponderance of difficulties similar to that found among 'chronic' hospital patients. Twenty two out of the 25 women (88 per cent) had a difficulty and 12 out of 25 (48 per cent) had a major difficulty. The majority of long-term difficulties were independent difficulties, 2Ø out of 25 subjects (8Ø per cent) reporting at least one before the onset of their symptoms. Comparison with community samples reveals that, prior to onset, hospital referred cases have a greater proportion of individuals with major and independent major difficulties (Table 12.1Ø). Both the community onset cases and hospital cases show a greater proportion of subjects with a major difficulty prior to the onset of their illness episode than among non-cases in the community, the differences being highly significant (community onsets v community non-cases X^2_c = 16.17, 1 df, $p < Ø.ØØ1$, hospital onsets v community non-cases $X^2_c = 32.45$, 1 df, $p < Ø.ØØ1$). There are proportionately more women with independent major difficulties in the hospital group (4Ø.1) than amongst community onset cases (23 per cent) and in both groups there are significantly more women with such events than among community non- cases (7 per cent).

A comparison of onset cases and chronic cases in the hospital reveals that both groups have similar proportions of women with major difficulties. But the chronic group, on average, have more

Table 12.9:

Proportions of Subjects with Major Difficulties preceding Inception/Interview among Hospital and Community Subjects

Category of Difficulty	Percentage with more than 1 Difficulty		
	Hospital 'chronic' cases (n=22)	Community 'chronic' cases (n=35)	Community 'non-cases' (n=485)
All major difficulties	59.1	38.9	12.2
Dependent major difficulties	13.6	18.6	6.2
Independent major difficulties	50.0	22.3	7.0

Table 12.10:

Proportions of Subjects with Major Difficulties preceding Onset among Hospital and Community Subjects

Category of Long-Term Difficulty	Percentage with more than 1 Difficulty		
	Hospital 'onset' cases (n=25)	Community 'onset' cases (n=35)	Community non-cases (n=485)
All major difficulties	48.0	34.3	12.2
Dependent major difficulties	12.0	17.1	6.2
Independent major difficulties	40.0	22.9	7.0

difficulties (mean 2.2, SD 1.5) compared to the onset group who have an average of 1.8 events (SD 1.5). Rates of difficulties in six months shows that although the chronic group experience a greater number of difficulties, the onset cases have more major and independent major difficulties (Table 12.11). Some authors have argued against the inclusion of health difficulties among major difficulties (Brown & Harris 1978) and have also suggested that chronic cases have an excess of major health difficulties compared to onset cases. Table 12.11 also gives a separate comparison of health difficulties in the chronic and onset groups but fails to confirm a marked excess of such difficulties in the first group. There were only 4 instances of major health difficulties. If health difficulties are removed from major difficulties the difference between the groups is hardly affected.

(iii) Events and difficulties

The question that is answered here is : what is the proportion of subjects who have an event or a difficulty preceding the onset of illness episode? Brown and Harris (1978) consider severe events and major difficulties as provoking agents and it is the presence of such stressors prior to onset that is considered. Since community onsets had only an average of 17 weeks of pre-onset life events available, calculations in Table 12.12 are based on an equivalent period for community non-cases and the hospital sample. The table shows that both onset groups (hospital and community) have more subjects with major life stress (both events and difficulties) than non-cases or 'normals' in the community and that the difference between the groups

Table 12.11:
Rates of Difficulties for 'Onset' and 'Chronic' Groups in the Hospital Sample

Category of Long-Term Difficulty	Rate 100 women/6 months	
	'Onset' cases (n=25)	'Chronic' cases (n=22)
All difficulties	188.0	213.6
Major difficulties	92.0	82.6
Minor difficulties	96.0	127.3
Major independent difficulties	76.0	52.4
All health difficulties	20.0	18.2
Marked health difficulties	4.0	9.1

Table 12.12:
Life Stress Experienced in 17 weeks preceding Onset/Interview in Hospital and Community Samples

Stress Class	Percentage with more than 1 Stress		
	Hospital 'onset' cases (n=25)	Community 'onset' cases (n=35)	Community 'non-cases' (n=485)
All severe events	24.0	20.0	8.7
Dependent severe events	8.0	14.3	3.1
Independent severe events	20.0	8.6	5.8
All major difficulties	48.0	34.3	12.2
Dependent major difficulties	12.0	17.1	6.2
Independent major difficulties	40.0	22.9	7.0
Any major stress	56.0	45.7	19.0
Independent major stress	56.0	28.6	12.2

persists when independent stress is considered alone. Although experience of major stress is not uncommon in the community (nearly 20 per cent of normal women reporting it in 17 weeks) 46 per cent of community onsets and over half of hospital onsets experience such stress before the start of their illness. The difference between community non-cases and hospital onsets (X^2_c = 17.61, 1 df, $p < 0.001$) and community onsets (X^2_c = 12.61, 1 df, $p < 0.001$) are highly significant. Similarly, when only independent major stress is taken into account the difference between community non-cases (12.2 per cent) and hospital onsets (56 per cent) is equally significant (X^2_c = 33.76, a df, $p < 0.001$) but the difference between the two community groups is of a lesser magnitude (12.2 per cent and 28.6 per cent) and significance (X^2_c = 6.27, 1 df, $p < 0.02$).

Summary

Life adversity measured in terms of life events and long-term difficulties amongst referred cases prior to their inception into treatment and preceding the onset of episodes was examined.

(1) There was an increase in measures of life events in the 9 week period prior to inception into psychiatric treatment. One-third of 'chronic' patients and a quarter of 'onset' cases had an event in the 3 weeks before inception. Severe events were more frequent in the same period.

(2) There was a similar excess of events prior to consultation with the general practitioner. The excess of events was twice the

rate found among community non-cases.

(3) Event rates were elevated prior to the onset of disorders and from comparison with the community sample it emerged that there was an excess of severe events before the onset of disorders among both community and referred cases and this was twice the rate found among community non-cases. Hospital cases had more severe independent events prior to onset compared to community cases.

(4) The hospital sample also showed a marked excess of long-term difficulties both prior to onset disorder and inception into care when compared to community samples.

(5) When events and difficulties were examined together nearly half of community onset cases and over half of referred cases had a major stress prior to the onset of episodes and in contrast only 12 per cent of the community non-cases had a similar experience. Referred cases had an excess of individuals with independent major stress preceding onset than community 'cases'.

DISCUSSION OF RESULTS

CHAPTER 13

DISCUSSION

The first part of the study was concerned with obtaining a detailed description of psychiatric morbidity from affective disorders in a geographically well-defined area of Edinburgh. Although the sampling frame for the general population study was based on the electoral register, those successfully interviewed (n = 576) were generally representative of the female population aged 18 to 65 in the study area as enumerated in the 1981 census, and this is evident from Appendix IV Table A2. In such a representative sample of the population that was randomly drawn the extent of psychiatric morbidity was over 15 per cent. The rather high refusal rate at first interview (27 per cent) can introduce a bias in morbidity estimates because it is reasonable to suppose that those who refused were more or less likely to be suffering from psychiatric symptoms when compared to the sample that was successfully interviewed. One way of estimating the extent of any such bias was to check the EPCR to see whether the two groups (refusals and sample interviewed) differed in terms of history of treated psychiatric morbidity. Only 4.5 per cent of the refusals and 4.9 per cent of the sample interviewed could be confirmed as having previous psychiatric contact according to the EPCR and this would seem to suggest that those who refused did not differ markedly from the sample seen, at least on this variable.

The observation that nearly 1 in 6 women in the general population

sample had a psychiatric disorder must be tempered with some caution. As shown in Chapter 7, only one-third of them had a diagnosis of definite major depressive disorder although the majority had depressive disorder as the main diagnosis. The point prevalence rate estimated here is however comparable to the findings of other population studies using similar operational criteria for case definition (Weissman & Myers 1978; Bebbington et al 1981 and Brown and Harris 1978). This further confirms the suggestion by Wing (1980) that much of the diversity found in general population case rates in earlier studies would disappear if the case identification methods are made more reliable and uniform.

The advantages of using a longitudinal design in general population studies are also confirmed by the observation that 11 new cases were found when those who were declared as non-cases in a cross-sectional design are followed up. The longitudinal follow-up part of the study made use of a stratified sub-sample of the original sample. Because of the selection criteria employed here, the cases that were found during follow-up could be seen as not representative of the original sample. However, if the losses during the follow-up are not considered then 161 individuals (without 'risk factors') were not followed-up and by appropriate weighting back it could be established that the design resulted in a loss of another 4 cases who like the 11 individuals could have had symptoms pre-dating the first interview. These cases were, according to the rules embodied in the RDC, in episode at the time of initial assessment and were in one sense, false-negatives because the arbitrary limits to the period of observation imposed by the cross-sectional design had meant that they did not reach a sufficient number (or severity) of symptoms to

achieve 'caseness' at the time. By increasing the time period available for observation such 'sub-clinical' cases are correctly classified as 'cases' in a dichotomous classification of cases and non-cases. Even allowing for such a re-estimate of cases, categorisation of individuals into a rather simple dichotomy of cases and non-cases is conceptually misleading and could lead to erroneous conclusions in terms of their aetiological associations because many among the non- case category could have had previous episodes in the recent or distant past. In the absence of life-time estimates of morbidity they would be considered along with others who never had the condition (Eaton et al 1985).

The availability of a comprehensive case register meant that the extent of the treated morbidity could be assessed fairly reliably and comprehensively. The errors in such case-register estimates are fully recognised (Baldwin 1971) but as far as this study was concerned all case-register information was checked against individual case-notes and many of the administrative-type errors (in coding information) were dealt with satisfactorily.

The point prevalence rate of referred psychiatric cases in this study was 387/100,000 for women between the ages of 18 and 65 in the study area. For affective disorder it was 173/100,000, nearly half of all treated morbidity. Figures for comparison are not difficult to find but any similarities or differences between the findings of this study and others would be open to a number of interpretations. The point prevalence of all treated psychiatric morbidity reported from case register based studies have been 861/100,000 for both sexes in Aberdeen in 1964 (Wing et al 1967) 682/100,000 two years later in

Aberdeen (Baldwin 1971) and 769 and 538 per 100,000 in Camberwell and Salford for both sexes in 1974. Whether the lower rate found in this study is consistent with a trend of declining treated morbidity or whether it is an aberrantly low rate is difficult to establish in the absence of other more recent estimates that have enumerated both in-patient and extra-mural morbidity. Unlike the case register figures, the rate reported here is based on verification of local addresses as 'usual addresses', and the characteristics of the study area in that it is not an inner city borough may also explain the lower rate of overall prevalence.

The point prevalence of affective disorders, as identified under the project diagnosis, was 173/100,000 with depressive psychosis accounting for 107/100,000. Point prevalence of all depressions in Salford in 1974 (among women) was 157/100,000, a figure very close to the present findings. The variability of case register based findings is emphasised by the Camberwell rate similarly estimated at 422/100,000.

The inception into care of new cases estimated as a rate/six months was nearly 700/100,000 or 1.4 per cent as an annual rate. Definition of inception used in this study was much stricter than what case registers conventionally employ (in that there should be a six month break after the last treatment episode as against a 3 month break in case registers) and duplicate counts were assiduously avoided. The only comparable figure (using both in-patient and out-patient inceptions) are from two English studies. Adelstein et al (1968) found an inception rate of 360/100,000 women, an annual rate limited to only first inceptions. A closer figure of 680/100,000

for both men and women was reported by Grad de Alarcon et al (1975) who employed almost identical criteria for new inceptions as used in this study. The general population inception rate of 11.4 per cent found in the present study would seem to emphasise the observation made by others (Nielsen & Nielsen 1976, Goldberg & Huxley 1980) that only a small proportion of new cases in the community reach hospital treatment settings.

Inception rate for affective disorders was found to be 310/100,000/6 months. If the incidence rate calculated for the general population could be considered in this context, that one out of 10 women develop a new episode of affective disorder every year in the general population, it is only one out of every two hundred women who would be seeking treatment for a "new" episode of affective disorder every year in the hospital setting.

Epidemiological investigations are not merely concerned with estimating the extent of morbidity and this study tries to seek significant determinants or associations of the morbidity at every level of investigation. On the basis of the case register derived results, certain associations of hospital treated morbidity were apparent and, in the second part of the study, making use of detailed interviews with a representative sample of subjects with affective disorder such relationships as were indicated in the first half were further investigated.

Both in the prevalence and inception samples, irrespective of whether subjects were out-patients or in-patients, there was a preponderance of women from the 35 to 54 year age group and those who were not

married. The lower rate for married women was a consistent finding. Because of the non-availability of census based data which distinguished between single, widowed and divorced women, further differentiation in rates amongst the non-married group of women was unfortunately not possible. However, proportionately there were more single women in both the prevalence and inception groups than there were divorced, widowed or co-habiting women. When inception cases were compared with prevalence cases, it was possible to see that the demographic associations of affective disorder were sensitive to duration of treatment, for example, married women were more frequent in samples of referred cases who had not been in treatment for very long. On the whole, earlier observations that unmarried (including separated, divorced, widowed) women with more chronic illnesses (affective psychoses here) are more likely to be seen in the hospital sample (Goldberg & Huxley 1980) are confirmed to some extent by the present findings.

The second part of this study was an attempt to provide more detailed information regarding referred cases of affective disorder. Before considering results from this aspect of the study, the implications of using multiple diagnostic criteria in classifying 'cases' need to be amplified. The study (Chapter 9) has emphasised the variability with which competing operational rules assign 'caseness' in both general population samples and amongst hospital referred patients and the contrast and overlap in classifying individuals with similar symptoms. What is obvious is that there is unlikely to be any uniformity in rates of disorder as assessed by the various diagnostic systems although the variations would be much less if operational definitions are used than if non-standardised methods of case-

identification were to be employed. There is some evidence from this study to indicate that the disagreement in case identification and categorisation of symptoms consequent upon using different criteria would be greater in general population samples than amongst referred cases who could be expected to have more severe disorders. This point was further emphasised by the poorer concordance between RDC and PSE-ID-CATEGO amongst anxiety disorders than with depressive conditions. The differences between the two systems could be due to a combination of factors; the availability of diagnostic categories (RDC having more than the PSE), different time periods covered in assessment (PSE based on one-month and RDC concerned with the whole episode), divergence in symptom thresholds, discrepancies of inclusion and exclusion rules as embodied in the algorithms employed. Whatever the reasons for the disagreement between the various systems are, the lack of uniformity in case identifcation and case definition methods would be a source of divergence in result findings between studies in spite of the apparent increase in diagnostic rigour that has been brought in by the adoption of operational criteria.

The central aim of this study has been a comparison of referred cases with cases of affective disorder found in a random general population survey. The important comparisons, which achieved the stated objective of the present investigation are included in the second part of the results section. Prior to that however, especially in Chapter 7, comparison between community cases and referred cases as identified through the case register provided some clues about the differences and similarities across the two settings. The greater diagnostic variability amongst referred cases was what would have

been expected and the results showed the absence of non-affective conditions in the community sample. Although the absence of schizophrenia, mania and organic conditions in a community sample would be of no surprise, the failure to identify more ubiquitous disorders such as alcohol abuse in the community sample must be attributed to the diagnostic approach adopted in the community survey. Whether such conditions as well as more subtle diagnostic distinctions like personality disorders were subsumed under some other neurotic disorder (for example, anxiety) in the community must remain a matter of conjecture as further diagnostic specification in the community sample would have been impossible to achieve. Leaving aside the absence of conditons that the PAS was not designed to identify, there was still greater variability amongst affective disorders found in the hospital sample. There also appeared to be more younger people and fewer single women in the community case sample, especially amongst onset cases.

Results from Chapter 10 reinforce these conclusions. Comparison of a sample of all those referred to hospitals and the community sample revealed that the community cases were younger, predominantly working class and of longer duration than the hospital patients. The difference in class composition was most obvious when prevalence cases from the community were considered since inception cases in the general population were largely middle-class. Results of this study confirmed that hospital referred cases had shorter duration of episodes, and any difference between hospital sample, community prevalence and onset groups may be due to the chronicity of symptoms rather than primarily connected with particular diagnoses or treatment settings in which cases were identified.

The latter part of the results presented here are strongly indicative of the similarities between hospital referred cases of affective disorder and similarly diagnosed community cases. This has a bearing on arguments concerned with whether community cases belong to the same or similar categories of disorder as in hospital cases or whether they are, as suggested by Bebbington (1982), 'distress reactions', transitory conditions which are essentially responses to adversity and not 'illnesses' in the same way as most of the hospital treated psychiatric conditions are.

The community sample described in this study is similar to the hospital sample of cases in fulfilling the same diagnostic criteria for affective disorder. Individuals with psychotic symptoms (like schizo-affective disorder) are not picked up in the community survey but the majority of the community sample like those referred to hospital treatment are suffering from major depressive disorder. One feature that distinguishes the community cases from the hospital depressions is the chronicity of the former group. On all the study variables, both groups differ markedly from the non-cases found in the general population. They had an excess of maternal death before the age of 12 and there were also more subjects with other kinds of personal loss when compared with non-cases. The lack of differentiation between cases in the two settings on this variable however suggests that maternal loss is unlikely to be a crucially important selection factor in terms of seeking psychiatric help (Brown et al 1977) nor would this observation support the hypothesis that loss experiences are more likely to act as 'symptom formation factors' in relation to severer forms of disorder.

Results concerning social support network and the availability of confiding relationships also tend to suggest that cases, both in hospital settings, and in the community, cannot be distinguished on the basis of these. One variable that appeared to be linked specifically to being a community case in this context is the immediate living group, i.e. no adults but only children at home. Consideration of all these factors must however be allied with the reservation that the aetiological significance of these variables cannot be fully established in the context of the present study. This investigation, on the other hand, was concerned primarily with discriminating hospital referred cases from community cases on the basis of the factors mentioned above.

Consideration of life adversity as measured by life events and long-term difficulties confirms the similarities between hospital and community cases in terms of their possible genesis. The thesis has not been concerned with testing aetiological models as such but looks at the presence of what are considered to be of likely aetiological significance in groups of women with affective disorder in the hospital and community. From that limited perspective, the results in Chapter 12 would seem to emphasise the occurrence of stressful life events and difficulties prior to the onset of disorder in both settings. Although only a minority of hospital (and community) disorders are preceded by stressful life events, there is nothing to suggest that as a group hospital referred cases are independent of life stress in the pre-onset time priod. The results of this study would seem to indicate that independent severe life events as well as long-term dificulties are more commonly

associated with the onset of hospital referred cases of affective disorder than that found amongst community cases. The small number of cases available for study precluded further sub-divisions of the hospital cases according to severity or type of disorder. Such limitations would appear to reduce the usefulness of these observations but at a rather general level the results could be interpreted as rebutting the suggestion that disorders found in the community are more likely to be associated with life adversity. Such a rebuttal of the notion that only 'mild' forms of disorder are associated with life adversity is strengthened by the results of this study in which the hospital referred cases were, on the whole, suffering from more severe disorders than those found in the community survey (Chapter 9).

The preponderance of long term difficulties (both severe and independent) in the hospital sample, both prior to inception and onset, further emphasises the chronic and unremitting nature of adversity which these subjects experience and this suggests the possibility that difficulties as measured here might be of greater significance in any distinction between general population morbidity and those who are referred to hospital care.

Implications of the results and future research

Morbidity studies

Psychiatric epidemiological studies would appear to follow a cyclical pattern. The enthusiasm for recent waves of general population studies could be attributed to the availability of reliable case

finding techniques and the uniformity of results obtained as a result. One of the perennial problems associated with psychiatric diagnosis or definition of the dependent variable - that of lack of specification of diagnostic criteria and poor reliability of diagnostic instruments - would appear to be less of an obstacle now in research. However, the results of most of the recent studies including this one could still be seen as reiteration of earlier findings that psychiatric morbidity is associated with certain broad demographic variables. In this context, the usefulness of further studies would be limited if all that they would attempt to achieve is a fuller discrimination of such relationships. Two points, however, require closer consideration. The study of psychiatric disorders in limited settings, hospital or community, would provide only a limited understanding of the disorder and as has been shown in the present investigation, there are important differences in the pattern of morbidity and its determinants between referred cases and those found in the general population. If only general population surveys are used to test aetiological theories, more severe disorders are likely to be missed and reliance on institutional setting for case selection would, on the other hand, limit the generalisability of significant findings and the confounding effects of selection factors peculiar to hospital referral would be difficult to control. In order to understand the relative contribution of the various independent variables in the causation and maintenance of disorder, epidemiological studies should include both general population cases and more severe disorders as found in hospital settings.

Measurement of disorder

The second point is concerned with measurement of psychiatric disorder. As mentioned above and illustrated throughout this study, use of reliable diagnostic criteria in case definition makes results of comparative analysis between samples or studies easier to interpret. However, in assigning individuals to exclusive categories of cases and non-cases would obscure differences within groups especially in the context of cross-sectional surveys. The differences shown in the present study between chronic prevalence cases and cases with shorter duration are illustrative of this problem. Similarly, a longitudinal approach to diagnosis, in terms of life time prevalence and previous history of episode, is likely to increase the chances of delineating aetiologically significant associations. One of the important implications of this study in this context is that the variation within the 'case' category, whether in hospitals or general population settings is a subject worthy of further enquiry.

Hospital v community

There has been a tendency in the area of epidemiology of affective disorders to consider hospital based studies and community studies as somehow separate and as referring to two different aspects of the condition under study. This is illustrated by the assumptions which often underlie such approaches. Studies of cases in institutional settings have traditionally been imbued with notions of the disorder as reflecting dysfunction in a biological sense and primarily concerned with individual vulnerability leading to pathophysiological

changes and environmental factors as largely peripheral influences. On the other hand, studies of population morbidity at large have emphasised the social causation of disorder and in association with such disorders have been, more often than not, sought at an ecological level. The current study has been an attempt to emphasise the complimentary aspects of population and hospital based investigations and to seek similar kinds of associations to what has conventionally been the hallmarks of community studies, within hospital referred cases. The contribution which environmental factors make in the causation and maintenance of affective disorders at different levels of severity have only been hinted at by the present study. Since it has been demonstrated that such factors are equally important in both hospital and community settings, further enquiries should be addressed to specifying the interactive patterns of these variables. It is also significant to note that associations demonstrated, for example with life events or difficulties, are by no means necessary and sufficient to explain causal mechanisms. Over half of the hospital cases did not have stressful experiences as measured by events prior to the onset. Similarly, a significant proportion of the onsets of community cases were not associated with life changes. Consideration of other factors, that would have theoretical salience in such contexts like family history of illness or previous history of episodes, will be useful strategies in future research.

Health care implications

Only a small part of this investigation was concerned specifically with aetiological questions. This was the assessment of life stress

prior to the onset of illness. Most other variables were considered in their association with caseness or patienthood, although the emphasis was with affective disorder. The differences that emerged between patterns of morbidity in community settings and in treatment settings require some understanding and have implications for treatment or other health care policies. First, only a small proportion of individuals who are considered to be fulfilling the criteria for discrete psychiatric disorders are referred to hospitals. Even allowing for the possibility that a greater proportion may be availing themselves of treatment at primary care level, it still requires an explanation why so few individuals are referred to psychiatric services. The nature of the disorders seen at treatment settings and identified during general population surveys appears to be not dissimilar (diagnostic classes, for example) and, although there are variations according to severity, the central core of clinical symptoms appears to be the same. 'Cases' found in the community are often more enduring than referred cases and such persistence of symptomatology must, if anything, increase the chances of those individuals being identified and referred. So why is it that only some individuals are selected from the pool of psychiatric morbidity in the community and referred to treatment agencies? Demographic correlates of disorder may be the crucial determinants of such selection. As has been shown, there are differences based on social class, marital status and possibly age, which distinguish referred cases from others. Similarly, inception into treatment both at the general practitioner level and psychiatric out-patient clinic was preceded by an increase in life stress. Chances of referral appear to be increased by the occurrence of life events. Further examination of this and other related factors would

clarify some of these issues connected with the process of case identification in a clinical context.

If psychological morbidity is as frequent as 15% in the population and if the symptomatology of the disorder found in the community are similar to treated cases in the hospital, it could be argued that there should be an attempt to screen for such disorders and provide psychiatric treatment as happens now in institutional settings. Like the origins of these disorders, the maintenance and remission of these conditions are also likely to be influenced by the social context within which they exist. Further observations on the 'natural' history of the evolution of these conditions are clearly called for before strategies of appropriate intervention are fashioned. Factors associated with treatment response in those who are currently identified in institutional settings would also require detailed examination in this context.

Further research

The need for further enquiries in this area has already been emphasised. Future studies should address more vigorously to the possibility of intervention strategies and assess the benefits of such approaches. As far as aetiological questions are concerned, the uniformity of morbidity rates across different settings and the failure of exclusively environmental or biological theories in explaining such distribution of disease should remind us of the need to consider these conditions as possibly the consequences of some complex interaction between individual vulnerability (biological and psychological) and precipitating stresses (again as environmental

insults or physiological changes). Such enquiries should be directed at affective disorder as found in community surveys as well as the more severe conditions currently seen more frequently in treatment settings. Efforts must be made to include variables such as family history or previous history (including age of onset) in studies that are primarily concerned with social causation of depression as this might help in elucidating not only the interaction between such vulnerability and 'social stress' but also in specifying the relative contribution of each of the factors in turn. Another area that requires closer study is the difference between onset of illness (first episodes) and onset of recurrent episodes as the association between risk factors and illness onset could vary according to which episode onset is chosen as the dependent variable. Evidence from physical medicine (especially from studies of heart disease) certainly points to such differences in risks between onset of the condition and its recurrence.

Although the problems associated with the validity of psychiatric diagnosis are likely to remain unresolved in the near future, there are good reasons for continuing efforts in refining and specifying the criteria for case definition in future epidemiological studies. The gains made in this area over the last two decades are ready for further exploitation and one aspect that requires closer attention is the longitudinal course or natural history of affective disorders as seen in community surveys. There is, for example, good evidence to suggest that categorisation of 'cases' into anxiety or depression on the basis of symptomatology alone is unlikely to have longitudinal stability (Tyrer 1985) and the validity of such diagnostic classes in relation to putative risk factors such as family history is also open

to question (Leckman et al 1983). The poor concordance between various diagnostic systems in classifying such individuals has been demonstrated in the present study. Further research in this area directed towards clarifying the longitudinal course of such conditions (or in making a longitudinal diagnosis) would clarify the inter-dependence of these ubiquitious diagnostic categories. Studies of co- morbidity on the basis of a non-hierarchical approach to diagnosis would also throw more light on this issue.

Future studies must seriously consider the gains to be made by adopting different designs and methods in conducting their enquiry than what has been conventionally employed in this area so far. Retrospective, cross-sectional and case-control designs have perhaps been exploited to the full given the methodological limitations in this area. The attractions of cohort studies or prospective longitudinal investigations in this area are obvious. For example, one of the major problems of the case-control approach has been the difficulty in delineating the time sequence of variables. Given the uncertainty in establishing episode or illness onset and the unreliability allied to measurement problems of many of the independent variables in the area of psychiatric epidemiology the exact sequence of variables has often been difficult to assess. Illness itself could be the cause rather than the consequence of a study variable such as poor social support or life adversity. Selection biases or biases in recall ("effort after meaning") are also unavoidable in retrospective enquiries. To some extent, these difficulties are avoided in cohort studies. Concurrent studies of 'high risk groups' have been fruitful in other areas and since risk factors are being specified with increasing confidence in the

aetiology of affective disorder, further testing of current hypotheses would be most stringent and productive (because it will provide a direct estimate of the risk of developing the disorder) if a cohort or prospective design is adopted.

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APPENDIX I

NDBURGH PSYCHIATRIC CASE REGISTER

NEW OUT-PATIENT—BOOKED
NEW OUT-PATIENT—EMERGENCY
LIST 'D' SCHOOL
WARD REFERRAL

UNIT NUMBER | | | | | | |

MR
MRS
MISS

FIRST NAMES

MAIDEN NAME

| | | | | | | |

DATE OF BIRTH

MARITAL STATUS

ADDRESS OF GP

F REFERRAL

WHERE SEEN

DATE SEEN

NT

PSYCHIATRIC CONTACT? YES/NO

IF YES, WAS LAST CONTACT ☐ IN-PT ☐ OUT-PT ☐ DAY-PT ☐ OTHER..... PLEASE SPECIFY: DOM-VISIT ETC.

WHERE

APPROXIMATE DATE DISCHARGED

IAGNOSES (See over) 1. ☐☐ 2. ☐☐

See over) ☐☐

EPCR12

CE OF REFERRAL
ON PSYCHIATRIC CLINIC/WARD
.P.
ELF, RELATIVE OR FRIEND
RISON
UDICIAL
OCAL AUTHORITY
THER

CURRENT DIAGNOSES
01—SENILE DEMENTIA
02—ORGANIC DEMENTIA
03—OTHER ORGANIC CONDITION
04—SCHIZOPHRENIA
05—AFFECTIVE PSYCHOSIS
06—OTHER PSYCHOSIS
07—NEUROTIC DISORDER
08—ALCOHOLISM
09—PERSONALITY DISORDER
10—SUB-NORMALITY
11—DRUG ADDICTION
12—NO PSYCHIATRIC DIAGNOSIS
13—TRANSIENT SITUATIONAL DISTURBANCE
20—OTHER DIAGNOSIS

DISPOSAL
01—ADMITTED
02—FOLLOW-UP-PSYCHIATRIC
03—FOLLOW-UP-OTHER
04—OPEN APPOINTMENT
05—WAITING LIST
06—DISCHARGE
09—OTHER

APPENDIX II

PSYCHIATRIC ASSESSMENT SCHEDULE

(PAS)

PSYCHIATRIC ASSESSMENT SCHEDULE

(PAS)

Code No 1 | | | |

Card No 4 | 7 |

5 | | | |

8 | | | |

1. INTRODUCTION

The interviewer should introduce himself briefly, describe the purpose of the interview and explain about any recording equipment. The purpose of the introductory section is to obtain an overall picture of the symptomatology, in the subject's own words.

** To begin with, I should like to get an idea of any problems that have been troubling you during the past month. What have been the main difficulties?

Record the main symptoms spontaneously mentioned.

Means of exploration, if subject gives inadequate information:

If subject's statement too brief - Can you tell me more about that?

If subject has no more to add - What else has been troubling you?

If statements are difficult to understand - Can you explain what you mean by .....?

If subject is vague - Could you give an example of .....?

If no other response forthcoming - Why did you come to the (hospital)?

RATE PATIENT'S ACCOUNT OF SYMPTOMS

0 = Subject responds adequately.
1 = Account somewhat inadequate but interview can proceed.
2 = Account seriously inadequate but interview proceeds in an attempt to rate some subjective responses, as well as behaviour, affect and speech.
3 = Impossible to continue with interview. Only behaviour, affect and speech sections rated.

REASONS FOR INADEQUACY (TICK AS MANY AS APPROPRIATE)

Denial or guardedness	_____	Inattention	_____
Incoherence	_____	Refusal	_____
Irrelevance	_____	Patient mute, stuporous, etc.	_____
Replies too brief	_____	Other, specify	_____
Poverty of content of speech	_____		

2. HEALTH, WORRYING, TENSION

** Is your physical health good?
(Does your body function normally?)

** Do you feel you are physically ill in any way?
(What is that like? How serious is it?)

RATE SUBJECT'S OWN SUBJECTIVE EVALUATION OF PRESENT PHYSICAL HEALTH
(Irrespective of whether physical disease is present.)

0 = Feels physically fit.
1 = Feels no particular physical complaint but does not say positively feels fit.
2 = Feels unwell but not seriously incapacitated. ☐ (11)
3 = Feels seriously incapacitated by physical illness.

** Have you had a physical illness recently; colds, influenza?

Or, if appropriate - What does your doctor say is wrong?

RATE PRESENCE OF PHYSICAL ILLNESS OR HANDICAP, taking results of recent investigations and physical state examination into account.

0 = No physical illness or handicap present.
1 = Mild but significant physical illness or handicap (.e.g. influenza or limp).
2 = More serious physical illness or handicap present but not incapacitating or threatening to life (e.g. deafness or duodenal ulcer). [ ] (12)
3 = Physical illness or handicap present which is incapacitating or threatening to life (e.g. blindness or carcinoma).

[9] (13)

51) [9]

** Have you worried a lot during the past month?

PROBE: (Money, housing, children, health, work, marriage, relatives, friends, neighbours, other.)

(How much do you worry? Are you a worrier?)

If any indication of worry, use further probes:

** What is it like when you worry?
(What sort of state of mind do you get into?)
(Do unpleasant thoughts constantly go round and round in your mind?)
(Can you stop them by turning your attention to something else?)

RATE WORRYING: A round of painful thought which cannot be stopped and is out of proportion to the subject worried about.

1 = Symptom definitely present during past month, but of moderate clinical intensity or intense less than 50% of the time.
2 = Symptom clinically intense more than 50% of the month. ☐ (14)

** Have you had headaches, or other aches or pains, during the past month? (What kind?)

RATE ONLY TENSION PAINS, e.g. 'band round head', 'pressure', 'tightness in scalp', 'ache in back of neck', etc., not migraine.

1 = Symptom definitely present during past month, but of moderate clinical intensity, or intense less than 50% of the time.
2 = Symptom clinically intense more than 50% of past month. ☐ (15)

** Have you been getting exhausted and worn out during the day or evening, even when you haven't been working very hard?

RATE TIREDNESS OR EXHAUSTION: Do not include tiredness due to 'flu, etc. = 9

1 = Only moderate form of symptom (tiredness) present; or intense form (exhaustion) less than 50% of the time.
2 = Intense form of symptom (exhaustion) present more than 50% of the past month. ☐ (16)

** Have you had difficulty in relaxing during the past month? (Do your muscles feel tensed up?)

RATE MUSCULAR TENSION: Do not include a subjective feeling of nervous tension, which is rated later.

1 = Symptom definitely present during past month, but of moderate clinical intensity, or intense less than 50% of the time.
2 = Symptom clinically intense more than 50% of past month. ☐ (17)

** Have you been so fidgety and restless that you couldn't sit still?

RATE RESTLESSNESS: (Do you have to keep pacing up and down?)

1 = Only moderate form of symptom (fidgety, restless) present; or intense form (pacing, can't sit down) less than 50% of the time.
2 = Intense form of symptom (pacing, etc.) present more than 50% of past month. ☐ (18)

** Do you tend to worry over your physical health?

RATE HYPOCHONDRIASIS: Overconcern with possibility of death, disease or malfunction. (N.B.) Re-rate at end of interview if subject constantly reverts to hypochondriacal preoccupation. Consider ratings of symptoms (1) and (3).

1 = Symptom present during past month, but not (2).
2 = Subject constantly reverts to hypochondriacal preoccupations during interview.

☐ (19

** Do you often feel on edge or keyed up or mentally tense or strained?

(Do you generally suffer with your nerves?)
(Do you suffer from nervous exhaustion?)

RATE SUBJECTIVE FEELING OF 'NERVOUS TENSION':
There is no need for autonomic accompaniments for this symptom to be rated present.

1 = Symptom definitely present during past month, but of moderate intensity, or intense less than 50% of the time.
2 = Intense form of symptom present more than 50% of the past month.

☐ (20

3. AUTONOMIC ANXIETY

In this section, rate only subjective anxiety with autonomic accompaniments, either free-floating or situational. Do not include worrying or nervous tension.

** Have there been times lately when you have been very anxious or frightened? (What was this like?)

(Did your heart beat fast?)

Ask for other autonomic symptoms.

(How often in the past month?)

* CHECK LIST of accompaniments: must check each item.

Autonomic - 1. Blushing 2. Butterflies 3. Choking
4. Difficulty getting breath 5. Dizziness
6. Dry mouth 7. Giddiness 8 Palpitations
9. Sweating 10. Trembling

Other - 1. Difficulty falling asleep
2. Muscular tension
3. Persistent worries about future events
4. Fidgeting or inability to sit still

52) ☐

o symptoms = 0
ne or more = 1

RATE FREE-FLOATING AUTONOMIC ANXIETY: Exclude if purely situational.

1 = Symptoms definitely present, with autonomic accompaniment, (i.e. any of sym toms 1-10) during the past month, but of moderate clinical intensity, or intense less than 50% of the time. ☐ (21)
2 = Symptom clinically intense more than 50% of the time.

** Have you had the feeling that something terrible might happen? (That some disaster might occur but you are not sure what? Like illness or death or ruination?)

(Have you been anxious about getting up in the morning because you are afraid to face the day?) (What did it feel like?)

RATE ANXIOUS FOREBODING WITH AUTONOMIC ACCOMPANIMENTS.
(First 10 symptoms)

1 = Symptom definitely present, with autonomic accompaniment, during past month, but of moderate clinical intensity, or intense less than 50% of the time. ☐ (22)
2 = Symptom clinically intense more than 50% of the time.

[9] (23)

CUT OFF IF SCORED 0 IN BOXES 20, 52, 21, 22.
PROCEED TO SECTION 4.

IF SCORE 1 or MORE IN ANY PROCEED BELOW

Cut off

PANIC DISORDER

- Have you had times when you felt shaky, or your heart pounded, or you felt sweaty, and you simply had to do something about it?
- Have you had any attacks of panic at all?

(What was it like?)
(What was happening at the time?)

If no attacks at all → Situational Autonomic Anxiety
If yes continue.

- During most of these attacks did you have: (Go through check list)

____ Shortness of breath
____ Palpitations
____ Chest pains or discomfort
____ Smothering or choking feelings
____ Dizziness or as if things spinning or unreal
____ Tingling
____ Faintness
____ Sweating
____ Trembling or shaking
____ Fear of dying or going crazy or losing control during the attack

53) ☐ None or 1 = 0
2 symptoms = 1
3 symptoms or more = 2

- How many attacks of panic did you have leading to action like leaving a bus or 'phoning for help?

RATE PANIC ATTACKS WITH AUTONOMIC SYMPTOMS: AND LEADING TO ACTION

Rate here if panic or intolerable anxiety leads to some action to end it, e.g. leaving a bus, 'phoning husband at work, going in to see a neighbour etc.

1 = One to 4 panic attacks - leading to action - during month.
2 = Panic attacks - leading to action - 5 or more times. ☐ (24)

- Did you have any panic attacks not leading to any action? YES/NO
- How many of both kinds of panic attacks have you had in the last 4 weeks? ____
- For how many weeks did you have at least one attack a week? (Include both kinds of panic attacks.)

54) ☐ 0 = less than 3 attacks in 3 weeks.
1 = 3 attacks in 3 weeks or more, but less than 6 attacks in 6 weeks.
2 = 6 attacks in 6 weeks or more.

55) ☐ - Were you nervous or anxious much of the time between attacks? YES/NO

SITUATIONAL AUTONOMIC ANXIETY

- Do you tend to get anxious in certain situations such as travelling, or being alone, or being in alift or tube train? (What situations?) (How often during the past month?)

(CHECK LIST: Can be presented on separate card and each item rated separately, if needed.)

Crowds (shop, street, theatre, cinema, church).
Going out alone; being at home alone.
Enclosed spaces (hairdresser, 'phone booth, tunnel).
Open spaces, bridges.
Travelling (buses, cars, trains).

RATE SITUATIONAL AUTONOMIC ANXIETY

1 = Has not been in such situations during the past month but aware that anxiety would have been present if the situation had occurred.
2 = Situation has occurred during the past month and patient did feel anxious because of it. ☐ (25)

- What about meeting people, e.g. going into a crowded room, making conversation?

(CHECK LIST: Present card if necessary.)

Speaking to an audience.
Eating, drinking or writing in front of other people.
Parties.

RATE AUTONOMIC ANXIETY ON MEETING PEOPLE

1 = Has not been in such situations during the past month but aware that anxiety would have been present if the situation had occurred.
2 = Situation has occurred during the past month and patient did feel anxious because of it.

☐ (26)

- Do you have any special fears, like some people are scared of feathers or cats or spiders or birds?

(CHECK LIST: Present card if necessary.)

Heights, thunderstorms, darkness.
Animals or insects of any kind.
Dentists, injections, blood, injury.

RATE ONLY SPECIFIC PHOBIAS, NOT GENERAL SITUATIONAL ANXIETY

1 = Has not been in such situations during the past month but aware that anxiety would have been present if the situation had occurred.
2 = Situation has occurred during the past month and patient did feel anxious because of it.

☐ (27)

- Do you avoid any of these situations (specify as appropriate) because you know you will get anxious?

(How much does it affect your life?)

RATE AVOIDANCE OF ANXIETY-PROVOKING SITUATIONS

1 = Subject tends to avoid such situations whenever possible.
2 = Marked generalisation of avoidance has occurred during past month, e.g. subject has not dared to leave the house or has gone out only if accompanied.

☐ (28)

4. THINKING, CONCENTRATION ETC.

** Can you think clearly or is there any interference with your thoughts?

** Do your thoughts tend to be muddled or slow?
(Can you make up your mind about simple things quite easily?)
(Make decisions about everyday matters?)

RATE SUBJECTIVELY INEFFICIENT THINKING

1 = Symptom definitely present during the past month, but of moderate clinical intensity, or intense less than 50% of the time.
2 = Symptom clinically intense more than 50% of the past month.

☐ (29)

** What has your concentration been like recently?
(Can you read an article in the paper or watch a TV programme right through?)
(Do your thoughts drift off so that you don't take things in?)

RATE POOR CONCENTRATION

1 = Only moderate form of symptom present during the past month (e.g. can read a short article, can concentrate if tries hard); or intense less than 50% of the time.
2 = Symptom clinically intense (cannot attempt to read or concentrate) more than 50% of the past month.

☐ (30)

** Do you tend to brood on things?
(So much that you even neglect your work?)

RATE NEGLECT DUE TO BROODING

1 = Symptom has caused moderate impairment to work or social relationships.
2 = Marked impairment.

☐ (31)

** What about your interests, have they changed at all?
(Have you lost interest in work, or hobbies, or recreations?)
(Have you let your appearance go?)

RATE LOSS OF INTEREST continuing during the past month.

1 = Symptom definitely present during the past month, but of moderate clinical severity or severe loss less than 50% of the time.
2 = Symptom clinically severe more than 50% of the past month.

☐ (32)

5. DEPRESSED MOOD

** Do you keep reasonably cheerful or have you been very depressed or low-spirited recently?
Have you cried at all?
(When did you last really enjoy doing anything?)

RATE DEPRESSED MOOD. N.B. When rating clinical severity of depression remember that deeply depressed people may not necessarily cry. See definition in glossary.

1 = Only moderately depressed during past month, or deep depression for less than 50% of the time and tending to vary in intensity.
2 = Deeply depressed for more than 50% of the past month, and tending to be unvarying in intensity.

☐ (33)

(56) [9]

** How do you see the future?
(Has life seemed quite hopeless?)
(Can you see any future?)
(Have you given up or does there still seem some reason for trying?)

RATE HOPELESSNESS on subject's own view at present.

1 = Hopelessness of moderate intensity but still has some degree of hope for the future (irrespective of time during month).
2 = Intense form of symptom (patient has given up hope altogether).

[ ] (34)

USE JUDGEMENT ABOUT WORDING

THOUGHTS ABOUT DEATH OR SUICIDE

** When a person gets depressed he may think about dying or suicide. Have you?

(57) [ ] 1 = Frequent thoughts about death (would be better off dead) or thoughts of suicide without plans.

** Have you felt that life wasn't worth living?
(Did you ever feel like ending it all?)
(What did you think you might do?)
(Did you actually try?)

RATE SUICIDAL PLANS OR ACTS

1 = Deliberately considered suicide (not just a fleeting thought) but made no attempt.
2 = Suicidal attempt but subject's life never likely to be in serious danger, except unintentionally.
3 = Suicidal attempt apparently designed to end in death (i.e. accidental discovery or inefficient means).

[ ] (35)

N.B. Examiner should judge clinically whether there was intent to end life or not. If in doubt, assume not.

If boxes 33 or 34 or 35 have a 1 or a 2 continue. Cut off If not → Sec

IF EVIDENCE OF BOTH DEPRESSION AND ANXIETY
RATE ANXIETY OR DEPRESSION PRIMARY

If subject suffers from both anxiety and depression and both have been rated as present, try to decide which is primary.

- Which seems worse, the depression or the anxiety? (Use patient's own terms.)

0 = Anxiety is primary. Depression appears to be entirely explicable in terms of the limitations placed on the subject by the symptoms of anxiety, e.g. being unable to leave the house, travel, meet people etc., or being afraid of heart disease because of palpitations.
1 = Anxiety and depression both present but seem independent of each other or it is not possible to decide whether one of them is primary.
2 = Depression is primary. Anxiety is either a result of the depression (e.g. subject is frightened because of morbid or suicidal ideas) or it takes the form of fears of catastrophe, forebodings about illness or death, dread of having to face the day when first waking in the morning, preoccupation that something awful is going to happen. Panic attacks and situational anxiety, if present, are secondary to depression.

☐ (36)

* Is the depression worse at any particular time of day?

RATE MORNING DEPRESSION (particularly on waking)

0 = No depression
1 = Not specifically marked in mornings
2 = Specifically marked in mornings

☐ (37)

6. SELF AND OTHERS

** Have you wanted to stay away from other people?
(Why?)
(Have you been suspicious of their intentions?
Of actual harm?)

RATE SOCIAL WITHDRAWAL

1 = Only passive form of symptom, i.e. subject does not seek company but does not refuse it if offered; or, if active withdrawal, less than 50% of the month.
2 = Actively avoids company (refuses it if offered). Actively withdraws in this way for more than 50% of the month.

☐ (38)

** What is your opinion of yourself compared to other people?
(Do you feel better, or not as good, or about the same as most?)
(Do you feel inferior or even worthless?)

RATE SELF-DEPRECIATION

1 = Some inferiority, not mounting to feeling of worthlessness. If subject considers self to be worthless, this intense form of the symptom is present less than 50% of the time.
2 = Subject considers self to be completely worthless. Symptom present more than 50% of the month.

☐ (39)

** How confident do you feel in yourself?:
(For example, in talking to others, or in managing your relations with other people?)

RATE LACK OF SELF-CONFIDENCE WITH OTHER PEOPLE

Consider only competence in social relationships, not competence at mechanical work, etc.

1 = Moderate lack of self-confidence, or intense lack less than 50% of the month.
2 = Intense lack of self-confidence more than 50% of the month.

☐ (40)

** Are you self-conscious in public?
(Do you get the feeling that other people are taking notice of you in the street or a bus or a restaurant?)
(Do they ever seem to laugh at you or talk about you critically?)
(Do you consider people really are looking at you, or is it perhaps the way you feel about it?)

RATE SIMPLE IDEAS OF REFERENCE

1 = Marked self-consciousness only (irrespective of time during month).
2 = Feels that people are criticising or laughing at self but can be reassured.

☐ (41)

** Do you have the feeling that you are being blamed for something, or even accused?
What about?

RATE GUILTY IDEAS OF REFERENCE. Do not include justifiable blame or accusation.

1 = Subject feels blamed but not accused (irrespective of time during month).
2 = Subject feels accused of some sin or misdemeanour.

☐ (42)

** Do you tend to blame yourself at all?
(If people are critical, do you think you deserve it?)

RATE PATHOLOGICAL GUILT ONLY

1 = Subject feels over-guilty about some peccadillo (irrespective of time during month).
2 = Subject feels to blame for everything that has gone wrong even when not her fault.

☐ (43)

7. APPETITE, SLEEP, RETARDATION, LIBIDO

** What has your appetite been like recently?
Are you eating less than usual?
(Do you have to force yourself to eat?)

POOR APPETITE

0 = Normal or increased
1 = Moderate decrease
2 = No appetite.

(58) ☐

** (Have you lost any weight during the past 3 months?)

RATE LOSS OF WEIGHT DUE TO POOR APPETITE
(Do not include changes due to physical illness.)

1 = Less than 7 lb (3.2 kg)
2 = 7 lb (3.2 kg) or more

☐ (44)

** Have you had an increase in appetite?

INCREASED APPETITE

0 = No increase or slight increase
1 = Mild to moderate increase
2 = Hungry all the time

(59) ☐

** Have you gained weight over the last 3 months?

WEIGHT GAIN

0 = No weight gain or only regained lost weight
1 = Doubtful or up to 5 lbs.
2 = 5 lbs.

(60) ☐

** Have you had trouble sleeping?
(How bad does it get?)

POOR SLEEP

0 = No difficulty or occasional difficulty
1 = Mild to moderate - often or usually has significant difficulty
2 = Severe; almost always has great difficulty

(61) ☐

** Are you sleeping longer or more than usual?

0 = Normal sleep or occasionally sleeps more than usual
1 = Frequently sleeps at least 1 hour more than usual
2 = Frequently sleeps 2-4 hours more than usual

(62) ☐

** Have you had any trouble getting off to sleep during the past month?
(How long do you lie awake?)
(What happens if you take a sleeping tablets?)
(How often does it happen?)

RATE DELAYED SLEEP

1 = One hour or more delay (irrespective of sleeping tablets)
2 = Two hours or more delay (irrespective of sleeping tablets) ☐ (45)

(In either case, ten or more nights during month)

** Do you seem to be slowed down in your movements, or to have too little energy recently?
How much has it affected you?
(Do things seem to be moving too fast for you?)

RATE SUBJECTIVE ANERGIA AND RETARDATION

1 = Marked subjective listlessness and lack of energy
2 = Marked retardation and underactivity (irrespective of time during month). ☐ (46)

IF NO APPETITE OR SLEEP DISTURBANCE, AND NO DEPRESSION, CUT OFF → SECTION 8

Cut off

IF SLEEP DISTURBANCE OR DEPRESSION:

- Do you wake early in the morning?

RATE EARLY WAKING (one hour before usual)

1 = One hour or more before ordinary time
2 = Two hours or more before ordinary time ☐ (47)

(In either case, ten or more nights during month.)

- Has there been any change in your interest in sex?

RATE LOSS OF LIBIDO WITHIN PRESENT EPISODE OF ILLNESS AND PERSISTING DURING PAST MONTH

1 = Marked loss of interest and performance
2 = Almost total loss of libido ☐ (48)

- Does the depression or tension get worse just before the start of the monthly period?

RATE PREMENSTRUAL EXACERBATION

0 = No definite exacerbation
1 = Marked exacerbation ☐ (49)

8. IRRITABILITY

** Have you been very much more irritable than usual recently?
(How do you show it?)
(Do you keep it to yourself, or shout, or even hit people?)

RATE IRRITABILITY

1 = Keeps irritation to herself
2 = Shows anger by shouting or quarrelling
3 = Shows anger by hitting people, throwing or breaking things. (50) ☐

9. BEHAVIOUR, AFFECT AND SPEECH

RATINGS

0 = Symptom absent
1 = Present in fairly severe degree, or very severe but intermittent during interview
2 = Present in very severe degree and almost continuous during interview
8 = Examiner not sure
9 = Subject not examined, or examination not appropriate

N.B. If in doubt, rate (0). A rating of (1) means there is no doubt about the symptom being present in a fairly severe form.

Behaviour during interview

(53) ☐ ** Self-neglect (cleanliness, make-up, state of hair and clothes)

(54) ☐ ** Slowness and underactivity (sit abnormally still, walks abnormally slowly, delay in performing movements)

(55) ☐ ** Agitation (fidgety, restlessness, pacing, frequent unnecessary movements).

Affect during interview

(56) ☐ ** Observed anxiety (tense, worried look or posture, fearful apprehensive look, frightened tone of voice, tremor).

(57) ☐ ** Observed depression (sad, mournful look, tears, gloomy tone of voice, deep sighing, voice chokes on distressing topic).

Speech during interview

(58) ☐ ** Slow speech (long pauses before answering, long pauses between words).

Self pity

** Behaviour and remarks indicate self-indulgent focusing on her own sorrows, problems or misfortunes. In judging the severity, note the extent to which she demonstrates the following:

(1) Suffering is directly communicated without restraint in order to elicit sympathy from others.
(2) Personal problems are viewed as unique or more severe than those suffered by others; and
(3) Feels that she is not being helped or understood by others.

0 = Not present
1 = Mild to moderate
2 = Severe to extreme

(59) ☐

Demangingness or Dependency

** Has sought undue assistance, praise or reassurance frequently from others, e.g. asks for advice or opinions of others, repeatedly asks staff to help her.

(70) ☐

0 = Not present
1 = Mild to moderate
2 = Severe to extreme

CONTINUE IF A 1 OR 2 IN ANY OF BOXES 20, 21, 22, 32, 33, 53, 54 (pages 4 to 8)
OTHERWISE CUT OFF ⟶ SECTION 12

---

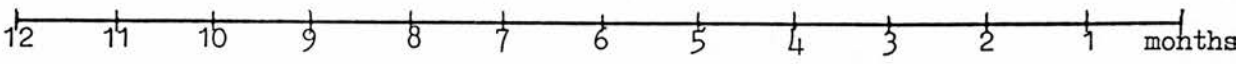
10. You've told me about feeling tense/anxious/depressed, etc. (as appropriate). When did you start feeling like this? (Date whichever started first.)

IF SYMPTOMS NOT STILL PRESENT (check if necessary) ASK -

When did things get better?

RECORD DATE AND PUT WEEKS AGO OF ONSET IN BOX. ALSO RECORD DATE OF OFFSET.

(71) ☐☐



DURATION OF SYMPTOMS

** Duration of symptoms occurring in last month

(73) ☐

0 = No illness or less than 1 week
1 = 1 week or more, but less than 2 weeks
2 = 2 weeks or more

** When did you last feel like your normal self for two months or more?

(74) ☐

1 = Less than 2 years ago
2 = 2 years or more than 2 years ago
3 = Always like this

11. IMPAIRMENT OF FUNCTIONING

If depression or panic or anxiety present:

** During this time when you have been depressed (or panicky or anxious)

did you seek help from someone? YES/NO
did anyone suggest you seek help? YES/NO
did you take any medication? YES/NO
did you act differently with people, family or at work? YES/NO

(75) ☐

If yes to one of the above, score 1 in box.
If no to all, score 0.

12. DELUSIONS AND HALLUCINATIONS

** Now I should like you to answer some questions which we ask of everybody:-

Has your imagination been playing tricks on you in any way?

Do you ever seem to hear noises or voices when there is no-one about, and nothing else to explain it?

Is that true of visions or other unusual experiences which some people have?

76) ☐ No = 0
Yes to any of these questions = 1

If YES describe in detail subject's experience in her own words.

77) ☐ Willing for immediate revisit

78) ☐ Willing for revisit at 6/12

☐☐☐ Code No.

8 Card No.

** So far, I've been asking about difficulties you may have had in the last month. (That is, from the _____ until today.)

** Now, I want you to tell me whether you have had similar difficulties in the 5 months before that.
(That is, from the _____ until _____.)

13. DEPRESSIVE DISORDER

** Were you during those 5 months bothered by feeling depressed, sad, blue, hopeless, down in the dumps, or that you didn't care any more, or didn't enjoy anything? YES/N

☐

If no → PANIC DISORDER

Cut off

If yes, did you have a period of at least one week when you were feeling depressed (low etc. - use patient's own words) most of the time?

How long did it last? No or less than 1 week = 0
1 week to 2 weeks = 1
More than 2 weeks = 2

☐

** Now ask probing questions and establish as near as possible dates of onset and offset. Even if it lasted less than 1 week.

(Time line 12 months)

Record in boxes 7 and 8 weeks ago onset and in boxes 9 and 10 weeks ago of offset

	D	M	Y
Date of onset			
Date of offset			

If the symptoms lasted less than one week in the five month period → PANIC DISORDER

Cut off

- During that time:
  1. Did you seek help from someone? YES/NO
  2. Did anyone suggest you seek help? YES/NO
  3. Did you take any medication? YES/NO
  4. Did you act differently with people, family or at work? YES/NO

If yes to one of the above score 1 in box.
If no to all score 0.

If no → PANIC DISORDER

Cut off

If yes, continue:

- During the most severe period were you also bothered by:

(1) Poor appetite or weight loss or increased appetite or weight gain?

(2) Trouble sleeping or sleeping too much?

(3) Having too little energy, or getting tired or fatigued easily?

(4) Loss of interest or pleasure in your usual activities or sex?

(5) Feeling guilty, worthless or down on yourself?

(6) Trouble concentrating, thinking or making decisions?

(7) Thinking about death or suicide?

(8) Unable to sit still and having to keep moving or feeling slowed down or having trouble moving?

Enter total no. of positive symptoms (1-8) in box 20.

If 4 or more → PANIC DISORDER.
If less than 4, continue.

Cut off

21 ☐ (9) Crying?

22 ☐ (10) Thinking about things with no hope or pessimistic outlook?

23 ☐ (11) Brooding about unpleasant things that had happened?

24 ☐ (12) Worrying about feeling inadequate?

25 ☐ (13) Feeling resentful, irritable or angry?

26 ☐ (14) Needing reassurance or help from somebody?

27 ☐ (15) Feeling sorry for yourself?

28 ☐ (16) Physical problems that did not seem to be caused by any particular illness.

29 ☐ Enter total no. of positive symptoms (from 1-16) in box 29.

30 [9]

14. PANIC DISORDER

** In the period of 5 months (until _____) have you had panic or anxiety attacks? Did you feel very frightened and have physical symptoms like:-

(1) Shortness of breath
(2) Palpitations
(3) Chest pain or discomfort
(4) Choking or smothering feelings
(5) Dizziness or as if the world were spinning or as if things were unreal
(6) Tingling
(7) Sweating
(8) Faintness
(9) Trembling or shaking
(10) Fear of dying, going mad or losing control

If the subject had discrete periods of apprehension or fearfulness with at least two of the above symptoms during such attacks, rate yes. (Do not include if lasts most of day or if limited to a circumscribed phobia stimulus, e.g. sees dog.)

31 ☐ 1 = Yes
0 = No

If no → GENERAL ANXIETY DISORDER

Cut off

** If yes, ask probing questions and establish as near as possible dates of onset and offset.

(Time line 12 months)

32 ☐☐ Record weeks ago of onset in boxes 32 and 33
34 ☐☐ and weeks ago of offset in boxes 34 and 35.

Date of onset D M Y ☐☐ ☐☐ ☐☐

Date of offset D M Y ☐☐ ☐☐ ☐☐

- How many panic attacks did you have over the five months?

If 3 or more:

- For how many weeks altogether did you have at least one attack each week (specify number)?

36 ☐ 1 = 3 or more
0 = Less than 3

If less than 3 → GENERAL ANXIETY DISORDER — Cut off

If yes:

37 ☐ - Were you nervous or anxious much of the time between attacks? YES/NO

If no → GENERAL ANXIETY DISORDER — Cut off

If yes:

- (1) Did the panic attacks affect your functioning in any way - socially, your family, at work? YES/NO
  (2) Did you seek help from anyone like a doctor, a minister, or even a friend? YES/NO
  (3) Did anybody suggest that you seek help? YES/NO
  (4) Did you take any medication to help you with these panic attacks? YES/NO
  (5) Did you drink excessively (alcohol) or abuse drugs as a result of these panic attacks? YES/NO

38 ☐ If yes to any above 5 questions 1 in box
If no to all 0 in box

15. GENERALIZED ANXIETY DISORDER

** In the period of 5 months (from _____ until _____) have you felt anxious, nervous, jittery, tense, restless or "uptight"?

39 ☐ YES/NO

If no → MOOD CHANGES IN THE PAST — Cut off

If yes,

40 ☐ - Have you had periods of at least 2 weeks when you felt anxious or tense most of the time? YES/NO

If yes, ask probing questions and establish as near as possible dates of onset and offset. Even if lasted less than 2 weeks.

(Time line 12 months)

41 ☐☐ 43 ☐☐ Record weeks ago of onset in boxes 41 and 42 and weeks ago of offset in boxes 43 and 44

Date of onset D ☐☐ M ☐☐ Y ☐☐

Date of offset D ☐☐ M ☐☐ Y ☐☐

If lasting for less than two weeks in the 5 month period → MOOD CHANGES IN THE PAST Cut off

- During the most severe period were you bothered by:

45 ☐ - Difficulty falling asleep? YES/NO

46 ☐ - Sweating or blushing or dizziness or palpitations or shortness of breath? YES/NO

47 ☐ - Muscles feeling tight or tremors? YES/NO

48 ☐ - Worrying much of the time about things that might happen? YES/NO

49 ☐ - Fidgeting or unable to sit still? YES/NO

50 ☐ If yes to any one above 1 in box
If no to all 0 in box

If no → MOOD CHANGES IN THE PAST Cut off

If yes:

- (1) Did this anxiety (use patient's own words) affect your functioning in any way; socially, your family or at work? YES/NO

(2) Did you seek help from anyone like a doctor, a minister or even a friend? YES/NO

(3) Did anybody suggest that you seek help? YES/NO

(4) Did you take any medication to help you with these anxiety symptoms? YES/NO

51 ☐ If yes to any above 1 in box
If no to all 0 in box

MOOD CHANGES IN THE PAST

** Now I would like to ask you some questions about your past. I would like to know how you have been in your mood in the past, apart from during thelast six months.

16. CYCLOTHYMIC PERSONALITY

** Since you have been an adult have you been the kind of person who often has a few days when you feel down or depressed and then has a few days when you feel even better than normal or high? YES/NO

If no → Briquet's Disorder

Cut off

- When you were 'high' or clearly 'better than normal', did you have the following during the most severe period?

1. More active than usual - either socially, at work, sexually or physically restless. YES/NO
2. More talkative than usual or felt a pressure to keep on talking. YES/NO
3. Racing thoughts or talking so fast that it was difficult for people to follow what you were saying. YES/NO
4. Feeling that you were a very important person, had special plans, powers, talents or abilities (grandiosity). YES/NO
5. Needing less sleep than usual. YES/NO
6. Trouble concentrating on what was going on because your attention kept jumping to unimportant things around you (distractibility). YES/NO
7. Doing foolish things that could have got you into trouble - like buying things, business investments, sexual indiscretions, reckless driving. YES/NO

If yes to 2 or more of questions 1-7 put 1 in box 60, otherwise put 0.

If 1 in box 60, continue.

If no → BRIQUET'S DISORDER

Cut off

If yes:

- Does that mean much of the time you are either 'up or down'? (Mood changes too numerous to count.) YES/NO

If no → BRIQUET'S DISORDER

Cut off

If yes:

- Does your mood often change for no apparent reason? (Are your mood changes unrelated to external events or circumstances?) YES/NO

If yes, score 1 in box
If no, score 0 in box

17. BRIQUET'S DISORDER

** What has your physical health been like?

** Has your physical health been poor most of your life?
Have you had many illnesses?
What about operations?

(Score YES if you consider that the subject has a vague and dramatic medical history, starting prior to age 25.) YES/NO

If unsure, continue.

If no → INTERMITTENT DEPRESSIVE DISORDER — Cut off

If yes, continue:

Notes: For the questions in this section you can rate YES without confirmatory evidence that the symptom was actually present. The mere report of such by the subject is sufficient. However, only physical symptoms, that in your judgement are not explained by some physical illness, are considered significant. This judgement often will require asking additional questions about the presence of other symptoms, what treatment was given, what the doctor said was wrong, etc.

- 1. Would you say you have been sickly a good part of your life? YES/NO

2. Have you ever had loss of sensation or not been able to feel something (whether or not associated with numbness), or lost your voice and been unable to even whisper (but not just hoarseness), or trouble walking or paralysis - inability to move (not due to pain or numbness), or blindness (complete absence of light perception lasting more than an instant), or convulsions, fits, seizures, or falling-out spells, or periods of unconsciousness when you couldn't remember what happened to you or what you had done (not associated with alcohol or drugs)? YES to any/No to all

3. Have you ever had abdominal pain or vomiting spells? YES/NO

4. Have you often been so bothered by menstrual pain that you could hardly do your (work, housekeeping, care of children, leisure time activities)?

Have you ever missed more than 2 periods in a row for more than a few times (excluding pregnancy or first year after menarche or menopause)?

Have you ever been bothered by excessive bleeding? YES to any/No to all

5. Have you usually been uninterested in sex, or been unable to enjoy sexual relations (with or without orgasm), or found intercourse painful? (For major portion of life after opportunities for a sex life?) YES/NO

6. Have you been bothered by back pain, joint pain, pain in your arms or legs, or more headaches than most people? YES/NO

If yes to 5 of the groups, continue (i.e. score of 1 in boxes 64-69)

Otherwise → INTERMITTENT DEPRESSIVE DISORDER — Cut off

If yes:

Using your judgement, do you (the rater) think that the subject has had a dramatic, vague or complicated medical history with onset prior to age 25?

☐ 0 If yes, score 1 in box
If no, score 0 in box

If yes to Cyclothymic (1 in box 62) → STOP → last ** questic
If yes to Briquet's (1 in box 70) → STOP
If not → CONTINUE

☐☐☐ Code No.
9 Card No.

18. INTERMITTENT DEPRESSIVE DISORDER

☐ ** For the past 2 years, have you been bothered by feeling depressed much of the time? YES/NO

If no → LABILE PERSONALITY — Cut off

If yes:

☐ - During this time, when you have been depressed much of the time, have you often had periods when you felt alright, or even good, for a few hours, days or weeks at a time? YES/NO

If no → LABILE PERSONALITY — Cut off

If yes:

- When you were feeling depressed were you also bothered by:

☐ 1. Poor appetite or weight loss or increased appetite or weight gain? YES/NO
☐ 2. Trouble sleeping or sleeping too much? YES/NO
☐ 3. Having too little energy or getting tired or fatigued easily? YES/NO
☐ 4. Loss of interest or pleasure in your usual activities or sex? YES/NO
☐ 5. Feeling guilty or worthless or down on yourself? YES/NO
☐ 6. Trouble concentrating, thinking or making decisions? YES/NO
☐ 7. Thinking about death or suicide? YES/NO
☐ 8. Unable to sit still and having to keep moving or feeling slowed down and having trouble moving? YES/NO

9. Crying? YES/NO

10. Thinking about things with no hope or a pessimistic outlook? YES/NO

11. Brooding about unpleasant things that had happened? YES/NO

12. Worrying about feeling inadequate?

13. Feeling resentful, irritable or angry? YES/NO

14. Needing reassurance or help from somebody? YES/NO

15. Feeling sorry for yourself? YES/NO

16. Physical problems that did not seem to be caused by any particular physical illness? YES/NO

If yes to at least 2 symptoms (of 1-16) continue.

If not → LABILE PERSONALITY — Cut off

If yes:

- 1. Did you seek help from anyone like a doctor, or a minister or even a friend? YES/NO

2. Or did anyone suggest you seek help? YES/NO

3. Or did you take any medication? YES/NO

4. Did you act differently with people, your family, or at work? YES/NO

If yes to any, score 1 in box - STOP → last ** question

If no to all, score 0 in box → LABILE PERSONALITY — Cut off

19. LABILE PERSONALITY

** Now I want to know whether, for most of your life, you have been the kind of person whose mood <u>often</u> changed <u>quickly</u> from normal to bad, such as feeling depressed or angry, for a few hours or days and then returns to normal? (Not due to pre-menstrual tension.) YES/NO

If no STOP. → last ** question If yes CONTINUE. — Cut off

If yes:

- Would you say that you often:

1. Are easily disappointed, feel sorry for yourself, or that you have been short-changed? YES/NO

2. Over-react to difficult situations? YES/NO

3. Make important decisions without thinking them over enough? YES/NO

4. Are bothered by feeling inadequate? YES/NO

5. Have difficulties getting along with people you are close to (such as breaking up, having arguments)? YES/NO

6. Are preoccupied with the bad aspects of your life or situation? YES/NO

If yes to at least 3 continue

If not - STOP → last ** question — Cut off

If yes:

1. Has this interfered with your social life, work or ability to get things done? YES/NO

2. Have you taken medication because of it? YES/NO

3. Did you ever seek help from someone because of it? (Were you ever referred for help?) YES/NO

If yes to any, score 1 in box
If no to all, score 0 in box

** So far we have been discussing the kinds of problem you may have had with your nerves. Have you, during the last six months, been to your GP about your nerves or to a psychiatric hospital, either as an outpatient or an inpatient? What about before then?

G.P. No = 0 Yes in the last six months = 1 Yes before six months = 2 Yes both = 3

Psychiatric O.P. No = 0 Yes in the last six months = 1 Yes before six months = 2 Yes both = 3

Psychiatric I.P. No = 0 Yes in the last six months = 1 Yes before six months = 2 Yes both = 3

APPENDIX III

INTERVIEW SCHEDULE TO ASSESS LOSS EXPERIENCES, SOCIAL CONTACTS AND CONFIDING RELATIONSHIPS

SOCIAL CONTACTS

Code No. [ ][ ][ ] (1 2 3) Card [2] (4)

"Now I want to ask you in some detail about your family and friends and the people round you and how often you see them. This is because we are very interested in how many good friends people have, and in how that may affect how they feel.
Are your parents living?"

0 Both dead
1 Father alive, mother dead
2 Mother alive, father dead
3 Both alive

[ ] (5)

IF NOT:

When did your mother/father die? (Deaths in current year code 00)

Number of years ago natural mother died [ ][ ] (6 7)

Age of S at death of mother [ ][ ] (8 9)

Number of years ago natural father died [ ][ ] (10 11)

Age of S at death of father [ ][ ] (12 13)

Were you separated from either or both of your parents for a year or more as a child?

0 No
1 Mother
2 Father
3 Both

[ ] (14)

IF NO:

Were you mainly brought up by your parents or by somebody else?

IF YES:

When was that?

Age of S at time of first separation from either parent of more than one year [ ][ ] (15 16)

Why did that happen?

Reason for the separation [ ] (17)

Parents separated 1
Parents divorced 2
Death of parent(s) 3
S taken into care by local authority 4
S placed in a home by the parents 5
S given to some other relatives to bring up 6
Illness of parent 7
Other reasons (specify) 8

IF S IS A WIDOW:

When did your husband die?

Number of years ago husband died (last husband) [ ][ ] (18 19)

IF S IS DIVORCED OR SEPARATED:

When were you first separated from your husband?

Number of years ago first separation from husband occurred [ ][ ] (20 21)

What about other family members? Have any of them died?
PROBE: Brothers? Sisters? Children? (Include adopted children)

IF YES: When was that?

Have you ever had any miscarriages, or had any pregnancy terminated, or suffered any stillbirths?

IF YES: GET DATES

Have you had any of your children adopted, or brought up by other relatives, or taken into care or anything like that?

IF YES: GET DATES AND REASONS

IF SIBLING(S)

Age of S at time of death of:

1st Sib. [ ][ ] (22 23) 2nd Sib. [ ][ ] (24 25) 3rd Sib. [ ][ ] (26 27) 4th Sib. [ ][ ] (28 29) 5th Sib. [ ][ ] (30 31)

(Code 88 if S cannot remember date. Do not count Sibs dying before S born, or Sibs aborted.)

IF CHILD(REN) (i.e. age < 17 years)

(Death includes miscarriage/termination/stillbirth)

	Reason for 1st loss/death	Age of S at time of 1st loss/death	Age of child at time of 1st loss/death
1st child	[ ] (32)	[ ][ ] (33 34)	[ ][ ] (35 36)
2nd child	[ ] (37)	[ ][ ] (38 39)	[ ][ ] (40 41)
3rd child	[ ] (42)	[ ][ ] (43 44)	[ ][ ] (45 46)
4th child	[ ] (47)	[ ][ ] (48 49)	[ ][ ] (50 51)
5th child	[ ] (52)	[ ][ ] (53 54)	[ ][ ] (55 56)

Reason codes:
1 = Given for adoption
2 = Voluntarily given to another relative to bring up (permanent arrangement)
3 = Temporarily given to someone else due to family circumstances (e.g. parents abroad, ill, etc., temporarily means at least 1 year)
4 = Child taken into care compulsorily
5 = Other (e.g. child runs away from home)
6 = Death of child

Age of child codes for:
miscarriage = 90
termination = 91
stillbirth = 92
loss/death within one month of birth = 93
loss/death aged one month to one year = 94

Household Members + Guests Staying or Expected to Stay for at least One Month

Could you tell me who is living with you in the household at the moment?

If you wanted to get hold of ..... in a hurry, could you do it?

Name of Person and relationship to S	Availability (adults only)	Age (children only)	Relationship rating
_____	57	58 59	60
_____	61	62 63	64
_____	65	66 67	68
_____	69	70 71	72
_____	73	74 75	76
_____	77	78 79	80
_____	5	6 7	8
_____	9	10 11	12
_____	13	14 15	16
_____	17	18 19	20

Code No. 1 2 3 Card 4 = 3

1 = Virtually unavailable (e.g. no phone)

2 = "S" no phone but household member has (e.g. at work)

3 = Both parties have phone directly available

Children up to 2 years get coded 01

H = husband
COH = cohabitee
B = son (blood or adopted)
G = daughter (blood or adopted)
M = mother
F = father
SIS = sister
BRO = brother
GM = grandmother
GF = grandfather
MIL = mother-in-law
FIL = father-in-law
O = other relative
OP = other person (non-relative)
BIL = son-in-law
GIL = daughter-in-law
FI = fiancée

or outside it, that you could turn to and share your troubles with?

IF S NOW MENTIONS SEVERAL PEOPLE ASK:

"Who would you go to first?"

1) Identity

Code:
0 = No confidant
1 = Spouse
2 = Parent
3 = Sibling
4 = Child
5 = Friend, not neighbour
6 = Neighbour
7 = Cohabitee
8 = Other relative
9 = Other person

"Can you tell (NAME OF PERSON) absolutely everything - all your aches and pains and so forth?"

2) Quality

Code:
1 = Cannot tell everything
2 = Can tell everything
3 = Can but does not tell everything

"Is he/she always available if you need him/her?"

3) Availability

Code:
1 = More than 50 miles away cannot be contacted by phone
2 = As (1) except at least confidant has phone
3 = Easily contacted but not guaranteed to attend to 'S' immediately (e.g. doctors, priest, social workers) or not easily contactable a large part of the time, e.g. commercial traveller
4 = Easily available part of each day but either difficult to contact or could not be present within the hour for the rest of the day
5 = Available virtually anytime, can be contacted quickly, e.g by phone and be present within the hour

"Do you think that he/she tells you all his/her worries troubles and aches and pains?"

4) Reciprocity

Code:
1 = Tells S all their troubles
2 = Does not tell S all their troubles (or S uncertain that they do)

"How often roughly have you contacted each other in the last month?"

5) Frequency

Code:
0 = No contact in last month
1 = Less than 1/week
2 = 1/week
3 = More than 1/week but less than daily
4 = Daily
5 = Living with S

6) Relationship Rating

Confidant	21	22	23	24	25	26

Is there anybody else you could turn to?
IF YES: REPEAT THE PROCEDURE FOR UP TO TWO OTHER CONFIDANTS

Confidant	27	28	29	30	31	32
Confidant	33	34	35	36	37	38

SOCIAL CONTACTS OTHER CLOSE RELATIVES

INCLUDE ONLY Husband (H), Parents (M and F), Brothers (BRO), Sisters (SIS), Sons (S), Daughters (D), Fiancé (FI), Step-parents, step-sons, step-siblings (put S in front of the abbreviation) e.g. SM = step-mother, SS = step-son. Half brothers and sisters (put H in front of the abbreviation). Mother-in-law (MIL), Father-in-law (FIL). Not aunts, uncles, nephews, nieces, cousins.

Have you any other close relatives who live IN EDINBURGH?

Any brothers or sisters? Fiancé etc? (RECORD NAME(S) AND ENTER 1 IN "WHERE LIVING")

Have you any other close relatives who live OUTSIDE EDINBURGH?

Any brothers or sisters, etc? (RECORD NAME(S) AND APPROPRIATELY CODE "WHERE LIVING")

Now I am going to ask you to tell me roughly how often you have seen, telephoned or written to each of the relatives you have just mentioned over the past month.

FOR EACH RELATIVE ASK: In the past month, how often, roughly, have you been to see (NAME OF PERSON)? Would it be more or less than 1/week?
(Determine code from entire list of relatives, then move to next column.)
ASK IN TURN: And how often has he/she come to see you? (ENTIRE LIST)

Do you ever phone each other? IF YES How often would that be? (ENTIRE LIST)

Do you ever write to each other? IF YES How often would that be? (ENTIRE LIST)

Person and relationship to S	Where living?	FREQUENCY OF CONTACT: Due to S visiting other	Due to other visiting S	Telephone contacts	Letter contacts	Relationship Rating
_____	39	40	41	42	43	44
_____	45	46	47	48	49	50
_____	51	52	53	54	55	56
_____	57	58	59	60	61	62
_____	63	64	65	66	67	68
_____	69	70	71	72	73	74
_____	75	76	77	78	79	80
_____	5	6	7	8	9	10
_____	11	12	13	14	15	16
_____	17	18	19	20	21	22

Code No. (1 2 3) Card 4 (4)

Codes:
1=Edinburgh
2=Elsewhere in Scotland
3=Outside Scotland
4=N.K.

Codes:
0=Not in last month
1=Less than 1/week
2=1/week
3=More than 1/week but less than daily
4=Daily

(Where someone stays with S for a time during the month, each day counts as 1 contact, average total contacts during the month to determine code, e.g. staying 10/7 = code 3. People who moved during the past month get recorded as in their present place of residence.)

SOCIAL CONTACTS - Diffuse support

Probe to see that each new contact is seen at least 1/FORTNIGHT. Do not count anyone seen less than this. Count everybody including children. Don't include those already mentioned (e.g. confidants, etc.). In the boxes record single figures as 01, 05, 08, etc. Ask the subject to count up in her mind all the people she meets for a chat under any given heading. If she gives you a final answer greater than 20, put 20 in the boxes, but do not ask her directly whether there are more or less than 20.

We are interested in the number of people that you come in contact with in your day to day living. What's it like where you work? Do you meet many people there or just a few? [23 24]

In the past month, how many of these do you have a chat with from time to time? [25 26]

Are there any people from work whom you see out of work hours? (Exclude people already covered.) [27 28]

If S not working code 99

How about your neighbours and people who live close by? How many of these do you regularly talk to and get on well with in the past month? [29 30]

In the past month have you ever seen any other relatives that we have not already mentioned? [31 32]

Are you active in any formal club like a church or trade union, or woman's organisation?

IF YES:

Are you involved in running ..... in any way?

THEN:

How often have you been to ..... in the past month?

If more than or equal to 1/FORTNIGHT code all relevant boxes

If less than 1/FORTNIGHT do NOT code number of people met

How many people do you meet there that we have not already covered?

Name of "Club"	Organiser/Member	Frequency	No. of people met
_____	[33]	[34]	[35 36]
_____	[37]	[38]	[39 40]
_____	[41]	[42]	[43 44]
_____	[45]	[46]	[47 48]
_____	[49]	[50]	[51 52]
_____	[53]	[54]	[55 56]
	Organiser = 1 Member = 2	More than or equal to 1/fortnight = 1 Less than 1/fortnight = 0	

Total no. of clubs [ ]

What about more informal groups like the pub or bingo?

Name of Gathering	No. of people met
_____	[ ][ ] 58 59
_____	[ ][ ] 60 61
_____	[ ][ ] 62 63

Total no. of gatherings [ ] 64

Other contacts not covered

Is there anybody else that you see regularly that you have not already talked about?

No. of people [ ][ ] 65 66

Pets

Have you any pets in the household?

Doesn't have a pet = 0
Has a pet = 1
[ ] 67

Pet in the house more than 1 year = 1
Pet in the house 1 year or less = 2
[ ] 68

APPENDIX IV

LIFE EVENTS AND DIFFICULTIES SCHEDULE

LIFE EVENTS

** "Here is a list of things that can happen to people. I want you to place a tick in front of any of these things that have happened to you or to people close to you, in the past six months - that is back to (DATE). By people close to you, I mean:

(SPELL OUT ALL THE LIVING PEOPLE THAT ARE RELEVANT. THESE ARE PARENTS, SIBLINGS, HUSBAND (WHETHER OR NOT SEPARATED), FIANCE, CHILDREN, STEP PARENTS, STEP SIBLINGS, STEP CHILDREN, HALF SIBLINGS, ADOPTED CHILDREN, CONFIDANTS NOT OTHERWISE COVERED.)

"You may find that something that has happened falls into more than one category. If so, tick it each time it occurs. This is just to start us off. When you have finished I will be asking you about these things in more detail."

WHEN S REACHES THE END OF THE EVENTS SECTION SAY:

** "Now this is a list of aspects of life in which you may have been experiencing difficulty during the past six months. Once again, place a tick in front of any of these which have happened to you or to the people close to you."

NOW WORK THROUGH EACH INCIDENT TICKED COVERING THE FOLLOWING POINTS:

1. DETERMINE WHETHER IT IS AN EVENT OR A NON-EVENT (DIFFICULTY OR NON-DIFFICULTY).

2. GET THE DATE(S) AND RECORD ON THE TIME LINE.

3. GET THE FULL STORY AND ALL THE FACTS, QUESTIONING AS NON-DIRECTIVELY AS POSSIBLE. GET AS MUCH DOWN ON PAPER AS POSSIBLE.

4. PROBE SYSTEMATICALLY TO GET ENOUGH INFORMATION TO MAKE ALL THE RATINGS ABOUT THE INCIDENT.

5. MAKE SURE THE TICK REPRESENTS ONLY ONE INCIDENT. (e.g. "and was that the only illness that has happened during the past six months?")

6. SHOULD THERE BE A HOUSING DIFFICULTY FILL IN THE HOUSING SHEET.

7. SHOULD THERE BE AN INTERACTION CHANGE FILL IN THE NETWORK CHANGES SHEET.

8. IF NO TICKS ON EVENTS SHEET TRY TO GET A LEAD FROM THE PAS.

NOW WORK THROUGH THE FOLLOWING QUESTIONS, ASKING EACH ONE THAT IS RELEVANT, UNLESS YOU HAVE ALREADY HAD A POSITIVE RESPONSE. BE ON THE LOOK OUT FOR FURTHER EVENTS. RECORD AND PROBE THEM IF AND WHEN THEY OCCUR.

** "Are there any relatives you worry about for any reason - because of a health problem or a drinking or gambling problem, or drugs?"

** "Have you made any special new friends?"

** IF OVER 38:

"What about the change of life? Have you had any problems with that?"

** FOR THOSE NOT LIVING WITH A HUSBAND:

"Have you had a boy friend?"

IF YES:

"Have you thought of marrying him?"

IF NO:

"Have you ever had one in the past?" "Have you missed not having one?"

** FOR THOSE LIVING WITH A HUSBAND:

"Have you had any broken friendships or attachments in the last six months?"

"Have you and your husband both been living at home during this time?"

IF NO:

"Have you been separated for any length of time during the past six months?"

"Have either of you ever considered a permanent separation or divorce?"

** "In the last six months has there been any big change in the amount you have been seeing of your friends and close relatives?"

** "Has anybody moved away in the last six months?"

** "Have you had a row with anyone or lost a good friend?"

** "Have you been seeing any more of your friends or close relatives recently?"

** "Now finally I would like to get some idea of how well you get on with the people closest to you. Here is a list (PRESENT) of types of relationship. I am going to ask you to tell me which one of those applies to each of the people close to you. So if you were quite neutral towards (FIRST NAME ON THE HOUSEHOLD LIST IN SOCIAL CONTACTS) you would say 4. If you thought it was a good relationship but not perfect you would say 2 and so on. Do you get the idea?"

WORK THROUGH THE HOUSEHOLD CONFIDANTS AND CLOSE RELATIVES OUTSIDE THE HOUSEHOLD.

EVENTS

REMEMBER. INCLUDE THINGS THAT HAVE HAPPENED EITHER TO YOU PERSONALLY OR TO THE PEOPLE CLOSE TO YOU.

___ Loss of job or change of job

___ Time off work because of illness

___ Return to work after period away from it

___ Trouble at work (e.g. arguments with bosses or workmates; strikes)

___ Promotion or change of responsibilities at work

___ Pregnancy

___ Birth

___ Starting or leaving school or university; starting a new course

___ Engagement (including also decision to get engaged as well as the formal or informal announcement)

___ Marriage (ceremony; setting the date of a wedding)

___ Divorce

___ Separation (including temporary separation)

___ Retirement

___ Illness (including nervous illness)

___ Admission to hospital

___ Discharge from hospital

___ Death (including also the deaths of friends and more distant relatives)

___ Miscarriage

___ Surgical operation

___ Contact with the police or the courts

___ Accidents (including witnessing an accident or being involved in the consequences of an accident)

___ Burglaries (only burglaries of <u>your</u> property)

___ Loss, damage or theft of <u>your</u> property

___ Examinations (including also hearing the results)

___ Crises or emergencies (e.g. emergencies involving the children, money, housing or marriage)

___ Receiving news (e.g. getting bad or surprising news about something or somebody)

___ Satisfactions and disappointments (including anything which has upset you or made you happy, e.g. substantial increase in income)

___ Making important decisions (e.g. buying a house, giving up work, etc.)

DIFFICULTIES

REMEMBER. INCLUDE DIFFICULTIES EXPERIENCED BOTH BY YOU PERSONALLY AND BY THE PEOPLE CLOSE TO YOU.

___ Family relationships (e.g. family rows; problems with relatives)

___ Housing (e.g. problems with state of repair or decoration of house; size, privacy; problems with landlord, neighbours)

___ Work (e.g. lack of employment; insecurity of job; poor work conditions; problems getting on with workmates; difficult hours)

___ Money (e.g. problems with hire-purchase repayments; gambling; paying the rent or mortgage)

___ Health (including nervous illness, mental or physical handicaps, drugs, drinking problems, problems associated with the change of life, worries about aged relatives)

___ Children (including problems in looking after them, problems with schooling, behaviour, discipline and trouble with the police)

___ Personal relationships (including problems associated with sex; problems concerning getting on with friends, neighbours)

___ Has anything else happened to you during this period which has not been covered in this list?

LIFE EVENTS - DEATHS AND NETWORK CHANGES

Code No. [ ][ ][ ] (1 2 3) Card [ ] (4)

Reduced contact

Friends and Close Relatives who Left or Died

Name of Person	Confidant Status	Permanent/ Temporary	Weeks ago exited	How often seen prior to exit	How often seen after exit	Telephone contacts	Letter contacts
_____	[ ] 5	[ ] 6	[ ][ ] 7 8	[ ] 9	[ ] 10	[ ] 11	[ ] 12
_____	[ ] 13	[ ] 14	[ ][ ] 15 16	[ ] 17	[ ] 18	[ ] 19	[ ] 20
_____	[ ] 21	[ ] 22	[ ][ ] 23 24	[ ] 25	[ ] 26	[ ] 27	[ ] 28
_____	[ ] 29	[ ] 30	[ ][ ] 31 32	[ ] 33	[ ] 34	[ ] 35	[ ] 36

Increased contact

Friends and Close Relatives who Entered

Name of Person	Confidant Status	Permanent/ Temporary	Weeks ago entered	How often seen prior to entrance	How often seen after entrance	Telephone contacts	Letter contacts
_____	[ ] 37	[ ] 38	[ ][ ] 39 40	[ ] 41	[ ] 42	[ ] 43	[ ] 44
_____	[ ] 45	[ ] 46	[ ][ ] 47 48	[ ] 49	[ ] 50	[ ] 51	[ ] 52
_____	[ ] 53	[ ] 54	[ ][ ] 55 56	[ ] 57	[ ] 58	[ ] 59	[ ] 60
_____	[ ] 61	[ ] 62	[ ][ ] 63 64	[ ] 65	[ ] 66	[ ] 67	[ ] 68

Codes:-

Is/was a Confidant = 1
Is/was not a Confidant = 2

Permanent (i.e. > 3 months) = 1
Temporary (i.e. ≤ 3 months) = 2

1 = None
2 = Less than 1/week
3 = 1/week
4 = More than 1/week but less than daily
5 = Daily
6 = Person died (record in all four colu

INCIDENT

Date

Description

Prior warning
Forecast event? Prior decision? Prior event which caused this?

Anti-Social Act
Police children's panel, courts involved?

Promise
Any good expected from this?

Focus
Who is the main actor?

Interaction Change
Is all the information on the sheet covered

Uncertainty
Anything important about to happen? Is an outcome known? Anything which might happen but is not certain to?

Conflict
Did S ever wonder what to do? Had she any choice?

Coping
What did S do about this?

Tag
Are there other incidents stemming from or connected to this one?

HOUSING

(Supplementary to life event interview section)

Do you own it (this flat/house) or rent it?

If rented: From the Council or private landlord?
If appropriate: Is it self-contained?
How many floors above ground do you live? _____

Nature of Tenancy		Accommodation	
Owned	= 1	House	= 1
Rented from Council	= 2	Flat, self-contained	= 2
Rented privately	= 3	Flat, not self-contained	= 3
Other (specify, e.g. tenancy by virtue of employment)	= 4	Other (e.g. hostel/hotel/ institution)	= 4

HOUSING CONDITIONS

1. KITCHEN — Do you have a separate kitchen? ..... Yes/No
2. BATHROOM — Do you have a bathroom? ..... Yes/No
3. LAVATORY — Inside living area ☐
   Outside living area ☐
4. SPACE — How many rooms do you have? (Include as living rooms kitchen where meals can be taken.)

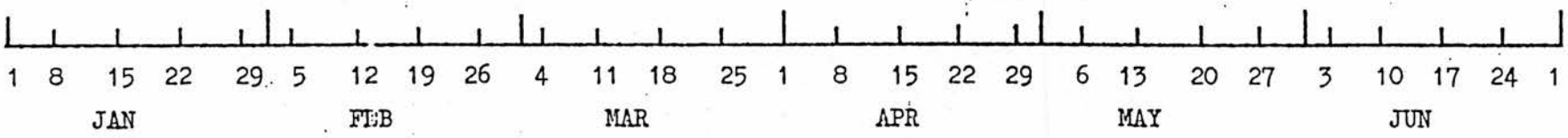
Number of rooms in flat/house	
Living rooms	Bedrooms

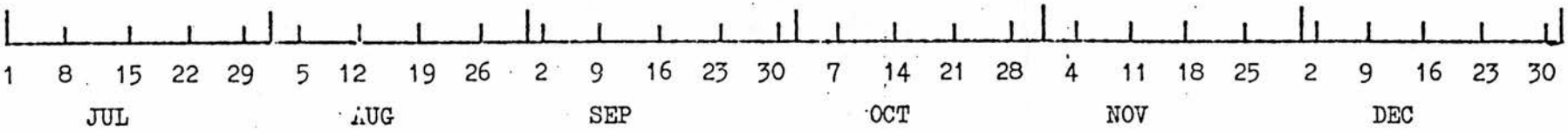
Number of persons in household	
1 - 10 years	> 10 years
Males	
Females	

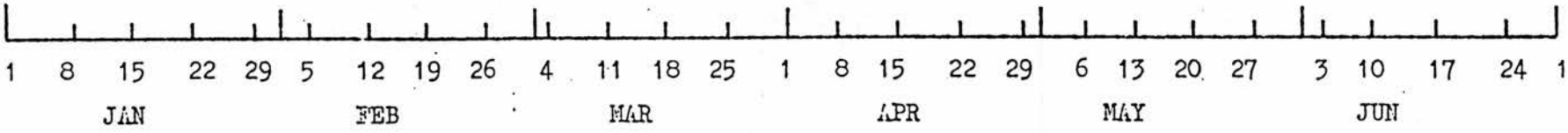
5. SATISFACTION WITH HOUSING

Determine to what extent 'S' is satisfied with present housing. (Obtain self-report rating of satisfaction and note any relevant comments.)

LIFE EVENTS TIME LINE (Leap year version)







Code number [ ][ ][ ][.][.] Card
1 2 3 4 5

EVENTS

date — independence A_1 B_2 C_3 D_4 E_5 F_6 G_7 H_8 — A — NP — F — interaction change I_1 I_2 I_3 I_4 I_5 — U — C — ST — LT — CO — H — T

[ ][ ][8][8] 6 7 8 9 | [ ][ ][ ][ ][ ][ ][ ][ ] 10 11 12 13 14 15 16 17 | 18 | 19 | 20 | 21 22 23 24 25 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33

[ ][ ][8][8] 34 35 36 37 | [ ][ ][ ][ ][ ][ ][ ][ ] 38 39 40 41 42 43 44 45 | 46 | 47 | 48 | 49 50 51 52 53 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61

Interviewer number [ ][ ] 62 63

Code number [ ][ ][ ][1][1] 1 2 3 4 5

[ ][ ][8][8] 6 7 8 9 | [ ][ ][ ][ ][ ][ ][ ][ ] 10 11 12 13 14 15 16 17 | 18 | 19 | 20 | 21 22 23 24 25 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33

[ ][ ][8][8] 34 35 36 37 | [ ][ ][ ][ ][ ][ ][ ][ ] 38 39 40 41 42 43 44 45 | 46 | 47 | 48 | 49 50 51 52 53 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61

Code number [ ][ ][ ][1][2] 1 2 3 4 5

[ ][ ][8][8] 6 7 8 9 | [ ][ ][ ][ ][ ][ ][ ][ ] 10 11 12 13 14 15 16 17 | 18 | 19 | 20 | 21 22 23 24 25 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33

[ ][ ][8][8] 34 35 36 37 | [ ][ ][ ][ ][ ][ ][ ][ ] 38 39 40 41 42 43 44 45 | 46 | 47 | 48 | 49 50 51 52 53 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61

Code number [ ][ ][ ][1][3] 1 2 3 4 5

[ ][ ][8][8] 6 7 8 9 | [ ][ ][ ][ ][ ][ ][ ][ ] 10 11 12 13 14 15 16 17 | 18 | 19 | 20 | 21 22 23 24 25 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33

[ ][ ][8][8] 34 35 36 37 | [ ][ ][ ][ ][ ][ ][ ][ ] 38 39 40 41 42 43 44 45 | 46 | 47 | 48 | 49 50 51 52 53 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61

A = anti-social act NP = no promise F = focus U = uncertainty C = conflict ST = short-term threat
LT = long-term threat CO = coping H = health T = tag

Card

Code number [ ][ ][ ][ ][ ] (1 2 3 4 5)

DIFFICULTIES

date — start [ ][ ][ ][ ] (6 7 8 9) end [ ][ ][ ][ ] (34 35 36 37)

independence — A_1 [ ] (10) B_2 [ ] (11) C_3 [ ] (12) D_4 [ ] (13) E_5 [ ] (14) F_6 [ ] (15) G_7 [ ] (16) H_8 [ ] (17)
[ ] (38) [ ] (39) [ ] (40) [ ] (41) [ ] (42) [ ] (43) [ ] (44) [ ] (45)

A [ ] (18) [ ] (46)

NP [ ] (19) [ ] (47)

F [ ] (20) [ ] (48)

interaction change — I_1 [ ][ ] (21 22) I_2 [ ][ ] (23 24) I_3 [ ][ ] (25 26)
[ ][ ] (49 50) [ ][ ] (51 52) [ ][ ] (53 54)

U [ ] (27) [ ] (55)

C [ ] (28) [ ] (56)

OS [ ] (29) [ ] (57)

GS [ ] (30) [ ] (58)

CO [ ] (31) [ ] (59)

H [ ] (32) [ ] (60)

T [ ] (33) [ ] (61)

Interviewer number [ ][ ] (62 63)

Code number [ ][ ][ ][1][5] (1 2 3 4 5)

Code number [ ][ ][ ][1][6] (1 2 3 4 5)

Code number [ ][ ][ ][1][7] (1 2 3 4 5)

A = anti-social act NP = no promise F = focus U = uncertainty C = conflict OS = objective severity
GS = general severity CO = coping H = health T = tag

APPENDIX V

ADDITIONAL RESULTS RELEVANT TO CHAPTER 5

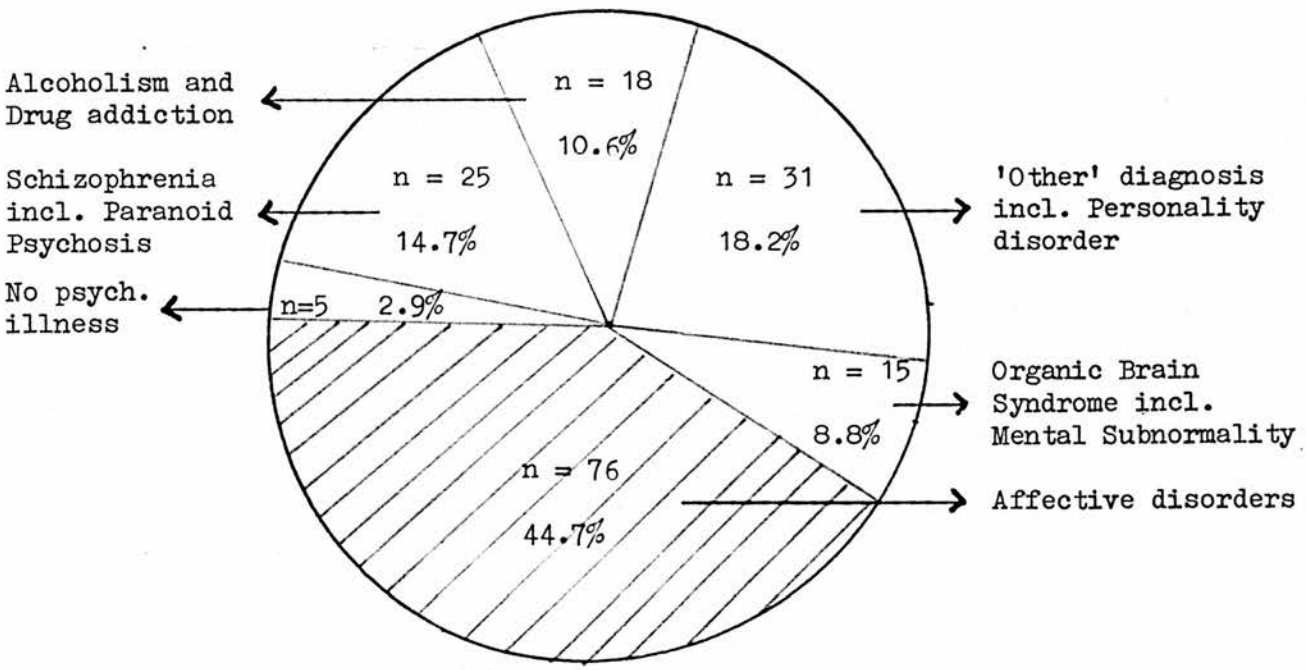
Appendix V

Table A.1:
In-Patient Prevalence Sample (n = 21)
RDC Diagnoses and PSE-ID-CATEGO Scores

Patient Code No.	Duration of Stay (wks)	Current RDC Diagnoses	Total ~~RDC~~ PSE Scores	ID	CATEGO Class	ICD-8 Diagnosis
01	314	Schizophrenia	8	7	S+	295.3
02	04	(Mental subnormality)	3	2	X	-
03	01	Primary endogenous depression	22	6	R+	296.2 OR
04	08	Primary endogenous depression	26	7	D+	296.2
05	01	Drug use disorder	7	3	X	-
06	22	Primary endogenous depression	19	8	D+	296.2
07	303	Depressive syndrome on schizophrenia	11	5	N+	300.4
08	34	Alcoholism	5	3	N?	-
09	04	Manic disorder	12	6	M+	296.1
10	10	(Bulimia)	1	2	X	
11	1	Primary endogenous depression	34	7	R+	296.2 OR
12	8	Primary endogenous depression	28	6	R+	296.2 OR
13	16	(Bulimia)	2	2	X	
14	1	Unspecified funct. psychosis	11	7	P?	297.9
15	52	Schizophrenia	8	3	M?	
16	17	Schizophrenia	8	6	S+	295.3
17	1	Unspecified funct. psychosis	9	7	P?	297.9
18	8	Manic disorder	7	4	M+	
19	48	Schizo-affective - mainly affective	30	8	S+	295.3
20	1	Primary endogenous depression	28	6	M+	296.1
21	2	Generalised anxiety disorder	7	4	A+	

Figure A.1:

Total Prevalence
Affective Disorders as a Proportion of All Diagnoses



APPENDIX V

Table A.2:
Total Prevalence - Age

Age Groups	Population		Hospital Prevalence		Rate/100,000 Population
	n	%	n	%	
18-34	19218	43.8	50	29.4	260.2
35-54	15097	34.4	80	47.1	529.9
55-65	9571	21.8	40	23.5	417.9
All Age Groups	43886	100	170	100	387.4

Table A.3:
Total Prevalence - Marital Status

Marital Status	Population		Hospital Prevalence		Rate 100,000/ Population
	n	%	n	%	
Married	26487	60.4	74	43.5	279.4
Single			57	33.5	
Widowed	17399	39.6	17	10.0	551.8
Divorced & Separated			22	12.9	
All Groups	43886	100	170	100	387.4

Table A.4:

Total Prevalence - Diagnostic Groups

Diagnostic Group (Clinical Diagnosis)	Hosp. Prevalence Sample n	%	Rate/100,000 Population
Org. Brain Syndr	12	7.1	27.3
Mental Subnormality	3	1.8	6.8
Schizophrenia	20	11.8	45.6
Affective Psychosis	47	27.7	107.1
Other Functional Psychoses	5	2.9	11.4
Neurotic Disorder	29	17.1	66.1
Alcoholism	13	7.7	29.6
Drug Addiction	5	2.9	11.4
Person. Disorder	8	4.7	18.2
Other Psych Disorders	23	13.5	52.4
No Psychiatric Illness	5	2.9	11.4
All groups	170	100	387.4

Table A.5:

In-Patient Group (n = 128): Source of Referral

Source of Referral	n	%
Psy. Out-Patient Clinic	40	31.2
Psy. Day Unit	4	3.1
Domiciliary Visit	5	3.9
General Practitioner	43	33.6
Non-Psych. Clinic or Ward	23	18.0
Self/Relative/Friend	7	5.5
Social Work Department	1	0.8
Judicial/Police	5	3.9
All	128	100.0

Table A.6:

In-Patient Group (n = 128): Marital Status

Marital Status	n	%	Admission Rate/ 6 months/ 100,000 Women
Married	43	33.6	162.3
Single	36	28.1	
Widowed	20	15.6	
Divorced	15	11.7	488.5
Separated	12	9.4	
Cohabiting	2	1.6	
All groups	128	100.0	291.7

Table A.7

In-Patient Group (n = 128): Employment Status

Employment Status	n	%	
NO EMPLOYMENT			
(a) Never employed	3	2.3	
(b) Unemployed	35	27.3	55.4
(c) Housewife	33	25.8	
EMPLOYED			
(a) Work until admission	23	18.0	
(b) Off sick < 3/12	13	10.2	32.9
(c) Off sick ≥ 3/12	6	4.7	
RETIRED	12	9.4	
NOT KNOWN	3	2.3	
Total	128	100.0	

Table A.8

In-Patient Group (n = 128): Social Class

Social Class (RG)	n	%	Rate/100,000 population/ 6 months
I	8	6.2	343.9
II	19	14.8	198.6
III NM	55	43.0	515.7
III M	21	16.4	183.3
IV & V	25	19.5	253.2
All classes	128	99.9	291.7

Table A.9

In-Patients (n = 128): Previous Psychiatric Treatment

Time since Last Care	IP Care		OP Care		Day Pt Care	
	n	%	n	%	n	%
No previous care	47	36.7	45	35.2	115	89.8
1 month	2	1.6	12	9.4	2	1.6
1 month < 3/12	5	3.9	5	3.9	-	-
≥ 3/12 < 6/12	10	7.8	10	7.8	1	0.8
≥ 6/12 < 1 yr	19	14.8	10	7.8	3	2.3
≥ 1 yr < 2 yrs	7	5.5	6	4.7	-	-
≥ 2 yrs	38	29.7	20	15.6	2	1.6
Attending until admission	-	-	20	15.6	5	3.9
Total	128	100.0	128	100.0	128	100.0

Table A.10

In-Patient Group (n = 128): Legal Status on Admission

Admission Status	n	%
Informal	107	83.6
Formal	21	16.4
Total	128	100.0

Table A.11:

In-Patients (n = 128): Living Circumstances Immediately Prior to Admission

Living Circumstances	n	%
Private House and living with 'other'	62	48.4
Private House and living alone	53	41.4
Residential Accommodation by local authority	2	1.6
Non Psychiatric hospital care	11	8.6

Table A.12

In-Patient Group (n = 128): Usual Living Group

Living Group	n	%
Lives alone	27	21.1
Lives with others		
- Parent(s)	13	10.2
- Spouse	51	39.8
- Children	22	17.2
- Other relatives or friends	9	7.0
- Sibling(s)	4	3.1
Lodgings/Hostel	1	0.8
Not known	1	0.8
Total	128	100.0

Table A.13

In-Patient Group (n = 128): Place of Birth

Place of Birth	n	%
Edinburgh	83	64.8
Rest of Scotland	26	20.3
Rest of U.K.	10	7.8
Overseas	4	3.1
Not known	5	3.9

Table A.14

In-Patient Group (n = 128): Injuries or Poisoning Prior to Admission

Type of Injury Poisoning	n	%
None	110	85.9
Self-inflicted	14	10.9
Other causes	3	2.3
Not known	1	0.8

Table A.15

In-Patients: Main Diagnosis - Psychoses

ICD.9 Code	Diagnosis	n	%
	ORGANIC PSYCHOSES		3.9
290.1	Pre-senile Dementia	1	
291.3	Alcoholic Hallucinosis	3	
294.8	Other Organic Psychosis	1	
	SCHIZOPHRENIA		10.9
295.3	Paranoid type	5	
295.4	Acute episode	1	
295.6	Residual	1	
295.7	Schizo-affective	1	
295.9	Unspecified	6	
	AFFECTIVE PSYCHOSES		31.3
296.0	MDP Manic type	9	
296.1	MDP Depressed type	21	
296.2	MDP Circular. Manic	1	
296.3	MDP Circular. Depressed	1	
296.5	MDP Circular. Unspecified	1	
296.6	MDP Other	1	
296.9	Affective Psychosis Unspecified	6	
	PARANOID STATES		3.9
297.0	Simple	1	
297.2	Paraphrenia	1	
297.8	Other	1	
297.9	Unspecified	2	
	OTHER NON-ORGANIC PSYCHOSES		1.6
298.0	Depressive type	1	
298.9	Unspecified	1	

Table A.16

In-Patients: Main Diagnosis - Neurotic Disorders, Personality Disorders and Other Non-Psychotic Mental Disorders

ICD.9 Code	Main Diagnosis	n	%
	NEUROTIC DISORDERS		14.8
300.1	Hysteria	1	
300.2	Phobic state	4	
300.4	Neurotic depression	11	
300.6	Depersonalization syndrome	1	
300.3	Obsessive-compulsive disorder	1	
300.9	Unspecified	1	
	PERSONALITY DISORDERS		3.1
301.6	Asthenic	1	
301.7	Predominantly sociopathic	1	
301.9	Unspecified	2	
303	ALCOHOL DEPENDENCE SYNDROME	13	10.2
304	DRUG DEPENDENCE	5	3.9
	OTHERS		12.5
307.1	Anorexia nervosa	1	
307.5	Other & Unspecified disorders of eating	2	
308.3	Acute situational distress	3	
308.9	Unspecified. Acute reaction to stress	1	
309.0	Brief depressive reaction	3	
311.0	Depressive disorder, not elsewhere classified	3	
317.9	Mild mental retardation	2	
312.3	Mixed dist. of conduct and emotions	1	
	NO PSYCHIATRIC ILLNESS	5	3.9

Table A.17

In-Patients: Hospital Admission Rate by Main Diagnostic Groups

ICD.9 Code	Main Diagnostic Groups	n	%	Rate/ 100,000/ 6 months
290,291,294	Organic Psychoses	5	3.9	11.4
295	Schizophrenia	14	10.9	31.9
296	Affective Psychoses	40	31.3	91.2
296.0,296.2	mania	10		
296.1,296.3,296.9	depression	28		
296.5,296.6	unspecified	2		
297	Paranoid States	5	3.9	11.4
209	Other non-organic psychoses	2	1.6	4.6
300	Neurotic disorders	19	14.8	43.3
301	Personality disorder	4	3.1	9.1
303/304	Alcohol, Drug Abuse	18	14.1	41.0
	Others	16	12.5	36.5
	No psychiatric illness	5	3.9	11.4

Table A.18:

Out-Patients (n = 272): Type of Out-Patient Consultation

Type of Patient	n	%
OP - Booked	170	62.5
OP - Emergency	48	17.6
OP - 'After-Hours'	25	9.2
Ward referrals	16	5.9
Domiciliary visit	9	3.3
Other hospital visit	4	1.5

Table A.19:

Out-Patients: Source of Referral

Source of Referral	n	%
General Practitioner	181	66.5
Non-Psychiatric Clinic or Ward	44	16.2
Self	20	7.4
Voluntary Agencies	12	4.4
Relatives, friends		
Social Worker	5	1.8
Police	2	0.7
Domiciliary visit	1	0.4
Not known	7	2.6
Total	272	100.0

Table A.20:

Out-Patients (n = 272): Marital Status and Inception Rates

Marital Status	n	%	Rate/100,000 per 6 months
Married	127	46.7	479.5
Single	77	28.3	
Widowed	20	7.4	
Divorced	16	5.9	833.4
Separated	18	6.6	
Cohabiting	5	1.8	
Not known	9	3.3	
All groups	272	100.0	619.8

Table A.21

Out-Patients (n = 272): Previous Psychiatric Treatment

Time since Last Care	IP Care		OP Care		Day Pt Care	
	n	%	n	%	n	%
No previous care	206	75.7	175	64.3	272	100.0
≥ 6 months to 1 yr	9	3.3	20	7.4	-	-
1 yr to 2 yrs	11	4.0	19	7.0		
More than 2 yrs	46	16.9	58	21.3		
Total	272	99.9	272	100.0	272	100.0

Table A.22

Out-Patients (n = 272): Employment Status

Employment Status	n	%
NO EMPLOYMENT		
(a) Never employed	17	6.3
(b) Unemployed	2	0.7
(c) Housewife	126	46.3
EMPLOYED		
(a) Working	12	4.4
(b) Off sick prior to referral	106	39.0
RETIRED	2	0.7
NOT KNOWN	7	2.6
Total	272	100.0

Table A.23:

Out-Patients (n = 272): Main Diagnostic Categories and Inception Rates by Diagnosis

Diagnostic Category	n	%	Rate/ 100,000 per 6 months
Organic dementia	1	0.4	11.4
Other organic psychosis	4	1.5	
Schizophrenia	11	4.0	25.1
Affective psychosis	32	11.8	72.9
Other psychosis	8	2.9	18.2
Neurotic disorder	88	32.4	200.5
Personality disorder	27	9.9	61.5
Sub-normality	2	0.7	4.6
Alcohol abuse/addiction	31	11.4	77.5
Drug addiction	3	1.1	
Transient situational dist.	24	8.8	54.7
Other diagnosis	14	5.1	31.9
No psychiatric illness	27	9.9	61.5
Total	272	99.9	619.8

Table A.24:

Out-Patients (n = 272): Immediate Disposal after Clinic Attendance

Disposal/ Outcome	n	%
Admission to IP care	34	12.5
Psychiatric OP follow-up	168*	61.8
Non-Psychiatric follow-up	13	4.8
Open Appointment	9	3.3
Waiting list	6	2.2
Discharged	35	12.8
Other	7	2.6
Total	272	100.0

* 15 out of 168 were subsequently admitted to psychiatric in-patient care during the study period.

Table A.25:

Inception of Affective Disorders

Type of Inception	Affective Psychoses n		Neurotic Disorders n		Inception Rate/100,000/6 months		
	IP	OP	IP	OP	Affective Psychoses	Neurotic Disorders	Total
Total new inception	11	32	5	88	98.0	211.9	309.9
Out-patient inception	-	32	-	88	72.9	200.5	273.4
Admission (new) rate	27	-	21	-	61.5	47.9	109.4

Table A.26:

Inception of Affective Disorders: Age - Percentage in Each Group

Age Groups (yrs)	% Affective Psychoses		% Neurotic Disorders		% Total (AP & ND)		% Both IP & OP AP & ND
	IP	OP	IP	OP	IP	OP	
18-24	18.2	6.3	20	14.8	18.8	12.5	9.2
25-29	9.1	6.3	-	17.0	6.3	14.2	9.2
30-34	-	12.5	-	19.3	-	17.5	15.4
35-39	18.2	12.5	20	11.4	18.3	11.7	12.5
40-44	-	9.4	-	4.5	-	5.8	5.1
45-49	-	6.3	20	6.8	6.3	6.7	6.6
50-54	18.2	15.6	20	4.5	18.3	7.5	8.8
55-59	-	15.6	20	9.1	6.3	10.8	10.3
60-65	36.4	15.6	-	12.5	25.0	13.3	14.7

APPENDIX VI

STUDY AREA - POPULATION ESTIMATES AND SAMPLE INTERVIEWED IN THE COMMUNITY STUDY

Appendix VI
Table A.1:

The Study Area
District Wards and Total Population (1981 Census)

WARD NO.	WARD	POPULATION			STUDY POPULATION
		Men	Women	Total	
7	Pilton	3722	3963	7685	2211
8	Muirhouse	3766	4228	7994	2503
9	Granton	3815	4357	8172	2393
10	Trinity	3102	3797	6899	2163
11	Newhaven	2548	2958	5506	1757
12	Fort	2440	2622	5062	1595
15	Telford	3211	3453	6664	2265
17	Broughton	3142	3362	6504	2192
18	Inverleith	2441	2850	5291	1671
19	Lorne	2959	3442	6401	2001
20	Harbour	3121	3081	6202	1913
24	Dean	2354	3257	5611	1872
25	New Town	2312	2686	4998	1825
26	Stockbridge	2627	3146	5773	1954
27	Calton	2774	3211	5985	1890
28	Lochend	2931	3401	6332	2005
29	Links	3017	3414	6431	1950
30	Craigentinny	3028	3617	6645	2021
37	Dalry	2475	2806	5281	1748
38	Shandon	2612	3136	5748	1947
39	Haymarket	2493	2712	5205	1744
43	Willowbrae	3350	3714	7064	2266
	TOTAL	64240	73213	137453	43886

Table A.2:

Comparison of General Population Study Sample with Population Eligible to be Included

Demographic Factor	General Population Eligible (%)	Sample Seen (%)
Social class		
Middle class	51.4	57.3
Working class	48.6	41.0
Unknown	-	1.7
Age		
18-34 yrs	43.8	49.1
35-54 yrs	34.4	33.5
55-65 yrs	21.8	17.4
Marital status		
Married	60.4	60.9
Others	29.6	29.1
Employment status		
Employed	68.2	70.7
Not employed	31.8	29.3